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In His Majefty King Geor ge's
German Dominions.
Being a fuccinct

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The Caverns, Lakes, Springs, Rivers, Mountains, Rocks, Quarries, Foofiles, Caftles, Gardens, the famous Pagan Iddol Puftrich or Spit-fire, Dwarf-holes, Pits, moving Illands, Whirlpools, Mines, feveral Engines belonging to them ; Ores, the manner of refining them; Smelting-houfes ; feveral forts of Ovens, Hammer-mills, Vitriol and Glafs-houfes, छcc. in the faid Foreft : With feveral ufeful aud entertaining Phyfical Obfervations.

## Written in German <br> By H. Behrens, M. D.

LONDON,

Printed by W.Pearfon, for T. OSbORN: in Grays-Inn, Holbourn. I 73,
$5894$


## TO

## His Royal Highnefs

FREDERICK Prince of Wales,

There Sheets

Are Dedicated with all poffible Submiffion,
B Y
(May it pleafe Your Royal Highnefs) Your Royal Highnefs's mof Obedient; moff Devoted, and moft Humble Servant,
Jobn Andree.

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## TO THE

## R E A D ER.

THAT Branch of Learning call'd Natural Hiftory has this Advantage, that it fuits the Genius of Men in a more peculiar manner than any - therScience wobatever: For whilfe we inform our felves of the State of Nature in any part of the Globe, wee are at the fame time agrees ably entertain'd by the Variety of Oljects, and our Spirits are infenfibly elevated by admiving the Power of that Being wbich produced thofe wondrous Works. But it will be needlefs to fay much in its Commendation, when wee confider, that the Several Societies of Learned Men, which bave been efablifb'd in fundry Parts of Europe, bave thougbt it worthy their particular eAptlication to improve this A 3

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part of Knowledge, and cultivated it with uninterrupted AJiduity, and that in order to collect a True and Compleat Natural Hiftory they encourage all Performances of this kind.

Upon thefe Considerations I doubt not but the Reader reill conceive a favourable Opinion of the prefent Undertaking, it being the only Cet Treatije that bas been werote upon the Curiofties of this. Country; where Nature feems to have done her Utmoft, to make Amends, as it were, for the difadvantage of its Infertility. The eAuthor had lived $a^{\frac{1}{t}}$ Nordhaufen, an Imperial City upon the Borders of Hartz-Foreft, upwards of 30 Years before he publifb'd this Book; and as he was a Man of Learning (which Sufficiently appears from the feveral Philofophical Remarks he makes, to explain divers Phonomena in Nature) as well as a diligent Obfervator, he feems to have been well qualifedfor it. He digefts the Book into Nine Parts, treating eact of them in a very methodical manner: But if the Reader fhould find fault with fome Acsounts webich favour too much of Supers

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Superfition; I must defire bim to obferve, that they are inferted here to fet forth the Genius of the Inhabitunts of the Country, and not as the eAutbor's oren Sentiments, be being So remote from giving Credit to Rom mantic Tales, that be relates'em with abundance of Caution, and takes particular Care to difinguith' em from Truth.

The Caverns which the Author legins with are defervedly admiv'd by all Curious Pes. fons. There are various Ofinions about their Original: Some fay they bad been Quarreys; others take 'emfor Mines; and others again think they were made for Temples in time of Paganifm; and lafily, fome affirm they were accidentally framed by Eartoquakes; not to mention the ridiculows Doctrine of Paracelfus and others, who advanc'ds That a particular Race of Men, which were neither altogetber Spirits nor human Creatures, but between both, bad prepar'd thofe Cavities for their Abode:

But, that fome of could not bave beesi mode for Quarreys, appears from their EnA 4 tries

## To the READER.

tries and Paffages from one Grotto to another, being fo narrowe that a common-fiz'd Man finds it difficult to get through. And altho ${ }^{\circ}$ it might be urg'd here, as a fainous Preacber among the Miners (a), and other Learned Men affrm, that those Pafjages were become narrower by the groweing of the Rock; yet it feems to be abfurd to imagine thefe Cares were Quarreys formerly, when we reflect, that fome of 'enz run many Englifh Miles in a Slreight line into the Rock, defcending in fome places, and afcending in otbers, baving but one Opening; and, that it would have been Folly to fetch Stone with unfpeakablc difficulty fo far under Ground, when great plenty of it is to be met weith in mofs parts of that Cowntry.
${ }^{T}$ Tis alfo very improbable they were inteno ded for Mines, fince not the leaft Relicks of any Ore are to be found, as far as I can learn from our eAuthor, in any of 'en. He effay'd fome yellow Matter found in one, call'd the Hegers Hort, which People imagin'd to be
(a) Vide p. $5:$

Gold

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Gold Ore, but obtain'd notbing metallic. As for the Grains of Gold found amongst fome Sand in Bauman's Cave, it follows no more from thence that that Cave was a Mine, than that a River carrying Gold-dust fould bave been dug for one. We may therefore, and not without probability, fuppole that fome of the $\int e$ Caves, if not all, were framed by Earthquakes, and, that the Pagan Priefts, finding them commodious for their Idolatrous Practices, kept their Gods iti thefe fubterraneows places, which feems to bave been a common Praclice among 'em; and we ghall foon be determin'd to credit this Conjecture, when we confider the many regular buman and other Figures feen in Bau. man's Cave, which fome pretend to be the accidental Produce of the dropping Water; but webat Ground their Afjertion is built upon I will not determine.

And, that Eart万quakes, or any fubterraneous Commotions, are capable of making fucb Cavities; appears plainly from the fubfidence of Ground, which bas occafion'd Jo many Lakes in that Country; for before the furface

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of the Ground could fink, there muft neceffas rily bave been a Cavity underneath it before.

When our efuthor (pag. 65 ) enquives into the Caufe of Springs on tbe Susmmits of Mountains, be embraces the Doctrine of the Philofophia Burgundica; but, in my bumble Opinion, that Phonomenoin is better accointed for from the Principles of Hydroftatics. For't is known, that when two Fluids of different gravities are put into a bent Sython, there muft be a bigher Column of the lighteft to counterbalance the heavief? : Now if the excefs of the difference between the gravity of Salt and frefo Water be in proportion to the excefs of the Mountain's height above the Sea, wobat תhould binder Springs from burfiing out there? And our eAuthor in the above-quoted place, lin. 3, \& feq. must be un= derftood to Speak of Mountains wobole beight is dijproportion'd to the different gravities of the Waters.

The Account the Author gives of the Idol fititing Fire feems to be defective in thisi

## To the READER.

that he had not Seen the Experiment try'd bimfelf; which if be bad, he would then bave been able to give the Reader a pofitive Relation of Fact, and clear'd up Some Difficulties. But fince this Affair may be accounted for in the Natural way, I fee no reafon to fuppofe any Magic in the cafe, unlefs the Experiment were perform'd before Witneffes of Veracity, twice or more times fucceffively, without any new fuptly of combufible Mato ter.

The Story of the Enchanted Hall, I doubt, will give the Reader fome Offence. As I bave made already above an Apology for Stories of that nature in general, I will only infert bere concerning the Paffage of the Divinatory Rod, from my orow Kno ledge, that Dr. Weitz (when that happen'd to him) was about 23 Years of age, and in company of other Students. Now, whether what pafs ${ }^{3}$ d there might be the Effect of Imagination, or of Fear, confidering it was in the Day-time, and they were all in the prime of their Vigour, I leave the Reader to judge.

## To the READER.

I proceed now to give an eAccount of the Country it Self. The Sylva Hercynia, or Hartz-Foreft, of the eAncients went from South to North alwooft thro' wotole Germany; but this Appellation is by the Moderns given only to that part fituated in the Circle of Lower Saxony, between 51 and 52 degrees North Latitude. The Weft of this Foreft is contiguous to the Dutchy of Brunfwick-Lunenburg, and is a part thereof: Southward it borders upon Thuringia; Eaftward, upon the Principality of Halberftadt and Anhalt; and Northward, upon the Bilboprick of Hilderfheim. It is about Thirty Englifh Miles broad, and about Sixty long. There are but fere Torens, and they are chiefly inhabited by Miners. The Country is very mountainous, and thick befet reith. Firr, Oak, and Beech-Trees. The Mountains are well frock'd with all forts of wild Beafts, and the Inbabitants fatten great numbers of Sroine there: In the Vales, which are moft of 'en Pafiure-ground, and produce not much Corn, they keep their Cattle. Their Winters are very fevere and long; and the elir

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is even in Summer fo very frarp, that it often freezes in the Foreft when they enjoy mild Weather in the open Country, and that at a few Miles diftance.

When the Snow, which lies generally very deep on the Tops of the $\int e$ Mountains, melts, or any fudden Showores of Rain bappen to fall, the Waters coming dowen from the Hills caufe the Rivers to freell to fuch a degree that they often prove of fatal consequence to the Inbabitants in the Vales. The People are very robuft, and generally live to a great age.

This Track of Land was, in time of the Pagans, famous for the two celebrated Idols that were worfhip'd there, viz. Puftrich, or the Idol fpitting Fire 30 foot borizontally, and as many vertically, (which is defcrib'd Page II2) and Saturn, which was found in the Caflle of Hertzberg. The latter was ador'd for Security and Plenty: Methilda, Daugbter to the Emperor Henry, firnan'd the Fowler, bad very curioufly embroider'd bis Hifiory, which was lodg'd in the Cathedral

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dral at Goflar, and by the Swedes taken from thence in the German Wars. The Idol and Temple were deftroy'd by order of Charlemagne.

When Cbriftianity obtain'd in Germany, and the Idolatrous Priefts weve expell' dfrom their ancient Poffeflons in Hartz-Foreft, feveral powerful Warriours built themfelves Casiles here, from wohence they made Ex= curcions upon, and plunder'd, the neigbbouring Iubabitants at pleafure. In this State they continu'd a great while, till HartzForeft was found rich in Mines, and then the German Emperors took upon'em to rout thofe Freebooters: Which how it was effected, and in wobat manner best part of this Country came to the Line of Hannover, may eafily be learnt from Hiftory, lut would be too tedious to mention here.

With refpect to the Mines, this Diftrict is counted to be the richeft Spot of Ground in all Germany; for here are more than One hundred and ten Capital Mines, Seve -

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sal of webich bave Small ones belonging to them: Some are work'd for the KING of Great Britarn (as Elector of Hannover) bis owa Account, and the reft farm'd out. The Mines of Wildman, Claufthal, Zellerfeld, Lauenthal, St. Andreasberg, Eفc. are Silver ones, and fome of them fo vich that Nine bundred thoufand Rixdollar's bave been coin'd in One Near from that of Clauthal only. This Mine of Claufthat roas difcover'd in the Year 1045, and that of Zellerfeld in 1070. The Overfeer, who. pays the Miners every Saturday, keeps bis Court at Wildman, it being alnoft in the midle of them.

The principal Produce of thofe Mines are Silver, Copper, Iron, Led, and Litharge. They bave many other Minerals bere, which yield alfo a great deal of Money, but are very dangerous to Workmen, becaufe of the poy fonows Vapours; as, grey Vitriol, the Ink. ftone of feveral colours, another fort of Vitriol folid groweing like Icicles, rebite Vitriol from Led Ore, Mifi of the mature and colour of Brimftone, sic.

## To the READER.

Thefe are wehat I thought neceffary for an Introduction to this Work, which our Author bad neglected in his Preface, be only making an Apolology there for printing the Book, and recommending it to the Publick.


PART

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## PARTI.

## Of the Remarkable Caverns in Hartz-Foreft.

## Chap. I.

Of the Baumans Cave.
Fegin with this Wonderful Work of Nature, becaufe it exceeds all the other Caverns in Hartz-Foreft, in Bignefs, number of Subterraneous Paffages, and other Rarities. It is grown famous, and taken notice of by Foreign Nations; as, the Englijh, the Italians, the French, and others, in their Writings ; as may be
feen in the Pbilofophical Tranfactions of the Royal Society in England, fublifh'd by theeir Secretary Henry Oldenburg, in the Year 1668, Month Sept. Likewife by Kircher, in his Mundus Subterraneus, Tom. II, Sect. 2, Lib. 8, Cap. 5. By Olaus Wormius, Tollius, and many other foreign Authors; and has been vifited by Perfons of all Degrees and Nations, who cannot fufficiently admire that Wonderful Cave, and the Curiofities contain'd therein.

Fohan Vavafor Baron of Gallneck, in his Work call'd The Glory of the Dukedom of Crain, Vol. I, Lib. 2, prefers the Cavern near Lueg, in the inner Crain, to all others, calling it the chief of all the Caverns; and particularly comparing it with the Baumans Cave, fays, that it furpaffes it by a great deal in Natural Curiofities; which he corroborates by the Teftimony of an Engliffr Gentleman and two Hollanders, who had feen both, and, as he fays, affur'd him that they had never feen yet any Cavern like the Bauman's Cave, but that that of Crain was far beyond it.

Now,

Now, altho' I muft confefs, that according to the Defcription and the Copperplates, the faid Crainifl Cavern is a Wonderful Work, and the Baumans Cave is no more fo full of Curiofities as formerly, becaufe the numerous Vifiters have carried many of them away ; yet it is ftill in fuch a condition, that it defervedly may be ffiled the Firlt of all the Caverns in this and the neighbouring Countries.

The Baumans Cave is fituated in the Lower Hartz, in the County of Reinfein: Near it, to the South, is the place calld Rubeland, and the Iron-Mills, upon the Bode, a noted River in the Hartz; to the North is the City and Caftle of Blankenburg; to the Weft the Royalty of Elbingrode; but to the Eaft there is nothing to be feen but the Foreft.

Tollius, Kircherus, and Wormius call it Bauman's Holz; which I take to be an Error, eafily to be committed by Foreigners that are not acquainted with the German Language: For I know of no other Name it has than that of Baumans, or, as the InB 2
habitants

## 4 <br> The Natural Hifory

habitants pronounce it, Buman's Hole; which Name it took from the Perfon who was the firft that ventur'd to go in it.

Thofe who want to view this Cavern muft look out for a Guide at Rubeland, who provides fuch Cloaths as the Miners wear, which they put on to prevent fpoiling their own, by creeping thro' the many narrow, and in fome places wet and dirty, Paffages.

While the company are changing Clothes, the Guide gets Candles, and Links, and a Firelock, in cafe the Candles fhould go out, which happens fometimes, and is by fome afcrib'd to the Malice of Subterraneous Spirits ; for 'tis currently reported, that many Travellers have feen there the Apparition of a white Woman; and Cbriflopher Helweig, in his Mountain Stories relates, That fome of the Company that went with him to fee the Bauman's Cave had feen her, whilft they flay'd in the uppermoft Grotto waiting for the Return of their Company ; but I believe fuch Apparitions are often produced by the Imagination of a timerous Mind;

## of Hartz-Foreft.

and, that the Candles are frequently extinguifh'd by the dampnefs of the Air, particularly as this Cavern has but one Opening, and the Air in it cannot be rarified, either by the Sun or Wind, it muft of neceffity be too moift for Candles to burn there freely.

When you arrive at the place where the Cavern is, you obferve at the entery a large Room vaulted in the Rock, which may be call'd the Antichamber.

The Mouth of the Cavern is in a hard Rock, and is round, and fo narrow that no more than one Perfon can creep in at once. It was the Opinion of Mathafius, formerly Preacher to the Miners in the Joachims Thal in Bohemia, in bis Third Sermon, that the Narrownefs of the Mouth of this Cavern proceeded from the growing of the Rock ; and he obferves, that Paffages into Quarries had been made wide enough for a Cart to pafs thro', which in procefs of time were grown too narrow for one Man. Antoine le Grand, in his Infitutiones PbiloSophia, Tom. I. Part 6. Daniel Sennert, in B 3 Epit。

Epit. Natural. Scientic, Lib. 5. and others, maintain the fame Doctrine.

The Guide lights the Candles and Links before the Entry, and gives one to each of the Company: Then he creeps into the Hole firft, and the Company follow him one after another; and thus they advance a confiderable length with fome Difficulty thro' the narrow and dufty Rock, till they get towards the North-weft, into the firff and uppermoft Grotto, which is a vaulted Apartment finely contriv'd by Nature, lofty and wide enough for a middlefiz'd DwellingHoufe to ftand in. The Stones congeal'd from the dropping Water (which for the future we fhall call for fhortnefs Drop-fione) are very plentiful here; not only the Ground, which is very uneven, but alfo fticking very thick to the fide-Walls and Roof, from whence they hang down like Icicles.

You fee feveral By-ways going out of this Grotto, where, according to the Account of divers People, Sprights play their Frolicks; but as nothing extraordinary is to
be feen there, the Guide never carries the Company into any of them, unlefs he be particularly defir'd to do it.

Here is a little Well, that has Water as clear as Cryftal, and of a moft pleafant tafte, which is look'd upon and ufed as an excellent Medicine againft the Stone. Whether it has the Vertue to alleviate Pain, or how it operates, I cannot pofitively determine, becaufe I have made no Experiments yet to difcover its Principles; but I have obferv'd it to be a good Pectoral, for fome People that drank of it in the Cavern in my prefence cough'd, and expectorated fuch a quantity of tough Phlegm, that they were eafed by it to a Surprize : Wherefore I conjecture that it has a power of refolving and attenuating, and that it procures Eafe in the Stone or Gravel Pains, by inciding the thick Slime, and opening the Paffages.

Eckformius, in his Epiflle (written 1589 , to Dr. Brendel, Profeffor of Phyfick at Fena, with whofe Hiftory of Earthquakes it is printed) fays of this Water, That if it be
put in a Glafs, it will drop no Sediment in a Years time: Which, I think, proves that it mult be impregnated with Mineral Salts that preferve it from corruption; or, that the Water was carefully kept from the Air by the Bottle's being clofe ftopp'd ; or elfe, that it contains no Impurities, whieh may be imagin'd to be left behind in the Rock, thro' which it filtrated.

The Company commonly tafte of this Water, and then follow the Guide a confiderable way, till they come to a Figure call'd the Horfe, which is a Rock, refembling a wooden Horfe made to teach young Men to vault ; being fix foot high, and twelve long. The Back is pointed; in the middle of it is a great Gafh the breadth of of a Man's Hand: On one fide of it the Cavern defcends, and over it the Vault is fpread in a perfect Arch, as if made by Ait. The Company muft mount upon this Horfe ftride-ways, and with the Candles in their Hands creep forwards, till they come almoft to the end; where, on the left, you fee the Entry to the fecond and mid.

## of Hartz-Foreft.

middle Cave, which is much narrower than the firft. Here you muft undergo a good deal of Fatigue, following the Guide fometimes on your Knees, and fometimes on the Belly, according to the Stature of the Perfon, for about twenty foot; which paft, you defcend eighteen foot by a Rope faften'd to the Rock.

This Grotto is much larger and higher than the firft, and has many by-ways, and and feveral deep holes, which contain nothing extraordinary. The Drop-Stone is likewife more plentiful here: Among other Rarities, there ffands in the middle of this Grotto a beautiful Rock, in the form of a Pillar, (made by the petrifying Water) which is fplit in the middle, by reafon of the continual dropping of Water in that place. Not far from it is a Well, perfectly like unto that in the upper Grotto, in bignefs, tafte, and vertue. From hence you go a good way forward, and come to another narrow paffage, where you muft creep again, fometimes fideways, and fometimes flat on the Belly, working your way upwards
wards with Hands and Feet.with much labour, till you come to a fpacious place, that is very juftly call'd the BeautifulWall, being 24 foot high, and as many long: Here you fee all forts of Bas-Relievo's, and carv'd, as it feems, and polifh'd Figures, with well-proportion'd human Faces; all kinds of Beafts, as Lyons, Horfes, E®c. alfo feveral Flowers and Fretwork, with other Rarities, too many to be related here, which have been framed by the dropping of the petrifying Water. They are fo finely polifh'd, that it feems as if they were made of Alabafter and finifh'd by the niceft Carvers; and I doubt whether the Hands of Men could make any thing more beautiful. Among the reft, there is an Organ, a moft compleat Mafterpiece of Nature ; the Pipes are exact and perfectly proportionate.

After you have taken a full View of thefe Curiofities, you creep upwards fomewhat higher into another Grotto, which very much refembles a Chapel : Here is a Stone about five foot high, fhaped like a Fryer in his Habit, with his Crown fhaved, where
fore they call it the Monk. About two yards diftance on each fide, are two more Stones form'd like Bufto's, call'd the Monk's Attendants.

From hence you afcend as it were by winding Stairs, a pretty deal higher, till you come to the Entry of another Grotto, which is a large Hole not unlike a middlefized Door-Gate ; but People go feldom into it, becaufe 'tis very deep, and there are neither Ropes nor Ladders provided to go down by. Eckflomintus, in the 'forefaid Epifle, holds it with the common People, that this Cavern runs fo far into the Rock, that no one has ever been able to find out the End: And fome who wander'd about in it feveral Days fucceffively relate, with probable Circumfances, that they went under Ground feveral German Miles, and arriv'd in the neighbourhood of Goflar? ${ }_{2} 7$ Engligh Miles from the Mouth of the Bauman's Cave.

The Guides fay this Cavern refembles the latter pretty much in bignefs and other refpects; and, that there is a Stone like unto
unto a round Table ; that whole Skeletons of a Gigantic fize are found there; that they heard Water running along with a murmuring noife; that there is in a by-Cavern a Rivulet, which carries grains of Gold with it, by which fome People had enrich'd themfelves. Which Report Thatius, in his Collectanea, feems to credit, when he mentions, That a Painter skill'd in Chymiftry told him, he had found in the Bauman's Cave fome Sand, which he wafh'd, and found feveral grains of fine Gold amongft it. If you difcharge a Piffol in this place, it gives a Report like a Cannon: The reafon is, becaufe the Air thus put in motion cannot fo eafily diffufe it felf as under the free Firmament, and the repercuffion of it muft neceffarily augment the Sound.

When this Experiment has been made, you return into the middle Cave; and if the Guide has forgot to fhew you the foffile Unicorn before, he doth it now, it being here in great plenty, in the Rocks and the Earth between 'em.

From

From this Cave goes a little low Paffage vaulted in the Rock, where you fee on the Ground fome of the Drop-ftone reprefenting all forts of confectionary Ware. This Stony Confectionary is like that of Wormius in Mujeo, L. II, C.6, which goes by the Name of Confetti di Tivoli, from the place in Italy where 'tis found. Some time fince I had a few pieces of it given me, by one who was Overfeer of the Baumans Cave, among which there was fome perfectly like candy'd Almonds, infomuch that when I mix'd it one time with real Confectionary Ware, and prefented the Plate to a Confectioner, he took one of thefe Stones, and bit upon it fo heartily that he had like to break his Teeth. But this place is pretty much rifled, wherefore the Guides do not much care to fhew it to every comer.

When the Company have thus view'd all the Rarities, their Candles being by that time almof burnt out, and the Cold (whieh is confiderable in this Cavern) grows troublefome, they muft return the fame Way back again, the Baumans Cave having

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 The Natural Hiforyhaving but one Entry. The going out is more troublefome than the coming in, by reafon of the continual afcending, efpecially at that place where you mount into the upper Grotto, where a bulky Perfon hath Work enough to raife himfelf by the Ropes, and to creep along almoft 20 foot thro' a narrow paffage, till he gets to the Horfe : When you are arriv'd here, the difficulty is over, and you eafily get from hence into the firlt Grotto.

As the Paffages in the Baumans Cave are very intricate, the Inhabitants of that Country tell many Stories about Peoples lofing themfelves there; and in particular, That a certain bold Man, who lived not far from the Cavern, and ufed to conduct Travellers into it, went thither one Day to make fome Obfervations, without any Company. His Candles hapned to go out, and he not being able to find his Tinder-box, nor his Way back again, was oblig'd to ffay there three Days and three Nights without Victuals or Drink; when at laft an Angel (as he faid) prefented himfelf under the appearance of
a Light, and conducted him out of it. When he came home he related his wonderful Deliverance, but lived only three Days after it. Likewife Eckstornius relates, That a Countryman, well known to his Parents, living in Rubeland, crept one day, out of a Bravado, into the Baumans Hole, alone and without Candles, who lofing his Way, wander'd up and down there feveral Days till he found his Way out again, and lived many Years afterwards; but he was grown entirely grey during the few Days he flay'd in the Cavern, by reafon of the great Frights he was in, for he had been tormented by Apparitions feveral ways: Some laying hold of him, accufing him of Theft, order'd him to be hang'd ; others charg'd him with Murther, and condemn'd him to have his Head cut off; and others perplex'd him after a different manner. (a)

That this Man might turn grey in fo fhort a time is very poffible, but whether the caufe of his Frights was real or imaginary,
(a) Atlas Geographus takes notice of this Story.

I pretend not to determine. Levinus Lema nius de Complexionibus relates feveral Examples of that kind, in particular of a young Nobleman at Cbarles the Fifth's Court, who having debauch'd one of the Ladies of Honour, was order'd to be beheaded. This Sentence terrified the Youth to fuch a degree that in one Night he became grey, and fo hagged in his Face that none of his Acquaintance knew him. I conceive the Rationale to be, that the Animal Spirits lofing their Activity by Fear, Grief, $\xi^{\circ} c$, the motion of the Arteries and Veins is flacken'd, and the ${ }^{\bullet}$ Humours are not portruded to the furface of the Body with that Vigour as due into the Excretory Tubes, the Hair; which for want of moifture are contracted and fhrivel; and their Contexture being thus alter'd, no wonder that their Colour is chang'd alfo. We fee an Example of that nature in Trees: When the Tree withers, or the Juice can no more be fent to the Extremity of the Branches, which is the cafe toward Winter, the Leaves grow yellow or whitifh. If the Leaves could be depriv'd
of their nutritious Juice all at once, and there were a certain degree of Heat to dry 'em (as 'tis the Cafe about the Hair) they would lofe their green colour in a very little while.

The Common People, who love more to admire than to enquire into the Nature of Things, relate many other wonderful Paffages concerning the Baumans Cave, which being too incredible, I forbear mentioning of them here. But we muft not reckon among that Clafs what the Learned Eckstor wius, in his above-quored Epiflle, fays, viz. That fome People have been influenc'd by remarkable Dreams, to believe that Treafures were hid in this Cavern; whereupon they went into it in order to dig 'em up, but return'd without Succeís, faying, That they found feveral Iron Chefts in the place they had dreamt of, but could not come at 'em, becaufe fome great black Maftiffs guarded them. What makes me credit thefe Stories, is, that I know feveral avaritious Perfons, who have been deluded in like manner, which I could name, and the Place C where offending the Parties concern'd.

Thefe are the Curiofities of the Baumans Cave, which I thought worth Notice above the reft. I omitted mentioning feveral Figures, as, a Font to baptize in, the Stagg, Serpents, Lyons, EE. not to be tedious to thofe who have been there, and to raife the Expectation of others.

## Сhap. II.

## Of the Cavern at Scharzfeld.

NE X T the Baumans Cave, the Cavern at Scharzfeld is worth feeing, being alfo remarkable for feveral Rarities: The Country People call it The Drearf-Holese It is fituated in the Lower Hartz, in the County of Hobuftein, in a Wood not far from the Caftle of Scharzfeld. Whofoever
wants to fee this Cavern, goes to the Village Scharafeld to look out for a Guide.: Then you proceed thro' a Wood and a Thicket, and coming near the Cavern, you muft get down by the Knots and Branches of a large Tree with fome Trouble and Danger, to come to the Mouth of it. When you are on the Ground, there reprefents it felf to your view a large Cleft in a Rock about 14 foot high : The infide of it is lined all about with a thick and fhining Drof-Stone. Now you advance a pretty way forwards; and muft creep a con. fiderable length, till you come into the fecond Cave, which for highth and bignefs is not inferior to the firft. From hence you creep again with fome trouble into the third, and from thence to the fourth Cave, and fo on: And in this manner, fome Guides fay, one may go five or fix Englifho Miles under Ground, without coming to the End.

The Cold is very intenfe in this Cavern, and rather greater than in the Baumans Cave. To let in fome Light, there are

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feveral round and fquare Holes in the Roof, fome of which are ftopp'd up with Stones and other Rubbifh. The common People imagine the Dwarfs went in and out by thefe Openings, but it is more probable they were made for Air-holes. There are fuch numbers of Paffages and Turnings, that it is almoft impoffible to count 'em; fome running forwards, fome fideways, and others acrofs, all communicating with one another in the manner of a Labyrinth, for which reafon 'tis very difficult to find one's Way out of it again without a Guide. Moft of thefe Paffages are as clean as if they were fwept with a Broom, and fome are fill'd up with Rubbifh, by thofe that dug there either for Oar or the foffile Unicorn.

The Drop-Stone is found in feveral of there Caves, altho' the top of the Mountain where the Cavern is, be a dry Limeftone. The Water drops continually from the Roof, fo thick that it feems as if it rain'd; and when thefe Drops fall on your Cloaths, and grow dry upon 'em, they turn
turn to white Spots, and a white Pouder like Chalk comes from it.

Some of the Guides affirm, from their own Experience, that being benighted in this Cavern, they heard in the Night-time a terrible Noife of Thundering, that made the Ground fhake under 'em ; which they attribute to the fubterraneous Dæmons. It may not be impoffible for the Devil to raife fuch a Noife, but it is very likely it might have been produced by a common Storm of Thunder that happen'd at that time, when the Noife being let in at the Air-holes, by reafon of the feveral Turnings and Windings, and the reverberation of the hard Walls, muft neceeffarily multiply and augment the Sound in that Cavern.
'Tis reported, that once, on the Eve of St. Peter and Paul, Twenty-five Perfons bound themfelves by Oath to each other to go into this Cavern, and not to come out of it again till they had view'd all the Curiofities therein, and found out the End; therefore they provided themfelves with a

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number of Candles, a Ladder, and Strings, and Provifion for feveral Days.

When they were advanc'd about Nine hundred fathoms, they found many Curiofities, large places like Palaces, all forts of Figures, form'd by the Drop-Stone; alfo fome Springs, running Waters, quantities of human Bones, fome of a Gigantic fize. Then creeping again thro' other narrow Paffages, they came into fpacious places, where Twenty-five could walk a-breaft. Thus they went on, till they cou'd go no farther; when following the Thread which they had ty'd to the Entry of the Cavern, they found their Way back again without Difficulty: But by the coldnefs of the place and many Frights, they were become fo pale, and their Countenances fo alter'd, that their Friends hardly knew them again.

Here is alfo found the Fofile Unicorn, but not near in fuch quantity as formerly, becaufe the Peafants, who ufed to dig for it , and to fell it to the apotbecaries and Drug
of Hartz-Foreft.

Druggifts, have almoft exhaufted the place. This Foffile is of different Shapes; fometimes 'tis form'd like a ftreight Horn, a Scull, a Jaw-bone, a Shoulder-blade, and a Back-bone ; a Rib, a Tooth, a Thigh-bone, and all other forts of Bones both of Men and Beafts; and there is fome found like an unfhaped Lump or Mafs of Stone, having no refemblance to any Bone at all.

There have been great Difputes among the Learned about this Foffile: Some, confidering that there are Pieces fo exactly like true Bones, affirm, they mult really have been part of fome Animal; and, that thofe of an anomolous form are of the Mineral kind. But others reply, That upon Examination they cannot find that great likenefs to Bones as their Adverfaries are pleas'd to fancy: In particular they fay, that thofe Bones of the Foffile Unicorn, which are call'd the Jaw-bones, have fuch Apophyfes as are never to be met with in the natural way; and, that fome being like no Bone at all, they fcruple not to conclude the whole to be a Lufus Natura, or

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an accidental Produce of Nature. Moreover they add, that granting fome to be like true Bones, it cannot be inferr'd from thence that they were really fo ; becaufe elfe it would follow, that the Figures reprefented in fome pieces of Slate, and the Cornua Anmionix, were once real; which are now allow'd on all hands to be Stones of a particular Kind.

Conringius, in Difertatione de Autiquo Helmf: a: 'ij Staty', thinks the Foffile Unicorn were petrify'd Bones. And Otto dee Querick, in his Experimenta Magdelurgica, maintains the fame Opinion. That there had been fuch Animals as Unicorns, he pretends to corroborate by the following Fact: He fays, That Anno 1663 , in a Lime-pit near Ruedlinburg, there was found an entire Skeleton of an Unicom, which had fix'd to its Forehead a long Bone, or Horn, as thick as a Man's Thigh-bone, and was prefented to the Abbefs of Quedinuturg; and, that there Bones had been convey'd to this place in the general Flood, is prov'd fufficiently by the various Bones dug up in moft parts
of the World. The Theatrum Europaum, Part V, mentions, that Anno 1645, the Swedes dug up, near Crems in efustria, a Giant's Skeleton, whofe Head was as big as a middle-fiz'd Table, and one Tooth weigh'd $5 \frac{1}{2} l$. and the Bone of his Arm as big as a Man's Middle. Eckstormius alfo confirms it, with the Author of the Topographia of Brunfwick, That one time there was found in the Baumans Cave an human Scull of a Gigantic Stature.

But the Bignefs of fome of thefe Bones feems to argue they could not be human, and therefore 'tis probable they either have encreas'd under-ground, or elfe are a Lufus Nature: For the talleft Man we know of was $O g$ of Bafan, whofe Bed is faid in Deuteronomy, Chap. 3, to have been eighteen foot long: Now allowing the Bed to be but one foot longer than the Man, he was feventeen foot high. But if the Head and Tooth found by the Swedes had belong'd to a regularly-proportion'd Man, he muif have exceeded $O g$ by a vaff deal; for the Tooth is faid to have weigh'd $5 \frac{1}{2}$ pound;
and fuppofing that of a common Man to weigh $\frac{1}{3}$ ounce, which is too much, then the Giant muft have had a Highth anfwerable to 176 times the bulk of a middlefiz'd Man.

Others cannot comprehend how thefe fuppos'd Bones fhou'd have been brought together in fuch quantities into thefe Caverns; nor will they be fatisfied with the Reafons fome Naturalifts give for their manner of petrifaction; wherefore Sennertus, in his Epitome Scientic Naturalis, lib. V, cap. 4• Schreder, in his Pharnacopoia Medica, and Laurentius Baufchius, in his Schediafma Curiofum de Unicornu foffili, and others, count it among the Minerals.

Kircher, in his Mundus Subterraneus, 1.8, c. 8 , makes this Diftinction betwixt Bones of a Mineral produce and petrify'd ones : He fays, the firft are folid throughout, but the latter hollow. Which Obfervation I have found not to be infallible, having feen fome Bones of the Mineral kind that were concave, as if they had formerly contain'd Marrow.

Thus

Thus has this Controverfie been canvas'd pro and con; but as I have had the Opportunity of examining great quantities of this Foffile, particularly in my Father's Cabinet, who had various pieces of it, I have found moft of that dug about the Hartz to be of a Mineral kind.

This being taken for granted, we are next to confider the Matter it is compos'd of. Some think with Libavius, Part.3. Singular. 1. 18, c. 17. that it is a bituminous Earth ; and others fay 'tis a kind of Agate putrify'd: But to me it feems moff probable that it is made of a Clay, or fattifh Earth call'd in Latin Marga, or Marl, which is very plentiful in this Country, and ferves to manure the Ground, inftead of Dung. According to the figure this Earth lies in under-ground, when the petrifying Water comes to it, and caufes it to grow hard, fo it remains, and thus becomes fometimes a well-fhapen Bone, and often a lump of Matter of no diftinct Form at all. This Formation is not perfected at once ; for 'tis obferv'd, that fome pieces lying in a place where
where there is room for encreafe, will grow to a monftrous fize.

This Foffile hath feveral Names, viz. Unicornu Minerale, Ebur Foffile, Ofteites, Monoceros Viulgi, Lithomarga alba, \&c. The moft common term 'tis known by, is Unicornu Foffle; but I can fee no reafon why it thould rather be call'd Unicorn than any other Animal, fince 'tis found of all forts of Forms, and thofe pieces refembling the Horn of an Unicorn but very rarely to be met with.

It is moft commonly of a light grey, black, or yellowifh colour, and very feldom perfectly white: Sometimes 'tis hard as a Stone, and other times foft like Clay, and grows harder the longer 'tis expos'd to the Air. It has commonly neither Smell nor Tafte, yet fometimes I have found it with a Scent like that of Quinces, which probably might proceed from a bituminous Subftance mix'd with the petrifying Water. It is introduced in the Materia Medica, and the whiteft and melloweft is reckon'd the beft for that purpofe. The Common People
of Hartz-Foreft.
try it by putting it into cold Water, and that which caufes moft Bubbles to rife they count for the beft fort. The reafon of the rifing of thefe Bubbles is, becaufe as this Foffile is full of Pores, wherein Air is contain'd, the Water getting into them, drives out the Air, which being fpecifically lighter than the Water, rifes in the form of thofe Bubbles to the furface.

The Common People look'd formerly upon it as a Medicine of extraordinary Effcacy, thinking it to be the true Unicorn; but fince 'tis come to be common, it hath loft much of its Repute. It operates very like the Terra Sigillata, abforbs, adftringes, and promotes Perfpiration, (vide Francijc. Foel. Pract. Tom. 5.) and is one of the In gredients of the Bezoardic P'ouder defcrib'd by D. Ludovici in Pharnacopceia Moderno Saculo applicanda, and produces a very good Effect, unlefs a Symptomatic Coftivenefs forbid its Ufe. Externally it ferves in puftulary Eruptions and Erofions about the Pudenaum and Fundament in Children, and in Eye-waters. Laftly, D. Hoffinan, in his

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Clavis Scbraderiana, admonifhes People to try the Foffile Unicorn firf upon a Dog, before it is made ufe of in Medicine, becaufe he thinks 'tis fometimes of a poifonous nature; which however is never obferv'd in any found in or near Hartz-Foreft.

## Снар. III.

## Of the Cavern at Hartzburg.

TH IS Cave is fo call'd from an old and ftrong (but now ruinous) Caftle, fituated in the Lower Hartz over-againft the Blocksberg. 'Tis very deep and long, and has many Turnings and Windings, not unlike that at Scbartzfeld, wherefore the Country People call it alfo The Dwarf= Holes. The Foffile Unicorn is likewife found here, in the fhape of Bones of all forts of Animals. Horfius, in his Obfervat. Anatom. mentions, That he was prefent when they dug up an human Scull petrify'd
fy'd, that had all the Sutures very diftinct and regular, which he among other Pieces kept in his Cabinet of Curiofities.

The Drop-stone is found here in great quantity: Some of it congeals into Cones like Icicles hanging from the Roofs; and fome falls on the Ground, and there forms divers Figures; and others run down the Sides of the Vaults, and there congealing, makes the Walls look fmooth and polifh'd as if made fo by Art. The Cones are fometimes as big as a Man's Finger, fometimes lefs: Some are hollow, and others folid: Some are white, fome grey, and fome of a muddy colour, according as the petrifying Water was more or lefs pure or impure.

As to the Vertue of thefe Drop-Stones, they have hitherto not been receiv'd among the internal Medicines. Some mix the Pouder of it with warm Milk, and apply it in form of a Cataplafm to Wounds receiv'd by Fire-arms, and pretend to perform extraordinary Cures with it. The Peafants ufe alfo this Pouder in Wounds and

Ulcers

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Ulcers to their Cattle ; and when their Horfes are gall'd, they expect great Benefit from it : Which may be likely enough, it being of an abforbent and drying nature, and may be beneficial in fome Sores, as far as it ferves to abforb the fharp Salts which occafion the Erofion.

## C Hap. IV.

Of the Cavern at Ufftrungen, calld the Heimkale.

TH I S Cavern lies in the County of Stolberg, oppofite the fore Hartz, not far from the Village Ufftringen, on the North fide of the Mountain, contiguous to the Mountain Stolberg.

Over the Mountain hangs a high Rock, which frightens many that go to fee it; and not without reafon, becaufe the Stone is of a brittle nature, and drops down fometimes

## of Hartz-Foreft.

times in huge Lumps, by which means the Entery, which otherways is very fpacious, has been partly obiftructed already, and may be totally fo in time.

After you have pars'd the Entery, you come Weftward into a very large Grotto, from whence you defcend into another, where is a Pond full of clear Water which, as the Guides report, never encreafes nor diminifhes. Near this Subterraneous Sea, Stones dropp'd from the Roof have form'd a kind of Pavement, which leads into another pretty large Grotto with a lofty Roof, lonking by Candle-light as if it were varnifh'd over with dark Red. From hence you mount thro' many rugged Paffages to the place which was formerly the Entery to this Cavern, being in the uppermoft part of the Mountain, but is now ftopp'd up with Stones ; wherefore you mult go back again the fame Way you came in.

Here is plenty of Drop-S7one, and, without doubt, if People wou'd dig for it, they might find alfo fome of the Foffile Unicorn.

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Near this Cavern, to the right, there is another, but much lefs, and very wet underfoot, which is the reafon few People care to go into it.

## Chap. V.

Of the Tiwo Caves at Queftenburg, calld the Great and Little Ice-Cave.

IN the Bailiwick of Questenburg, in a Vale betwixt two high Mountains, there lies the Village Queslenburg, from whence thefe Caves borrow their Names. One of thefe Mountains is of Chalk, and very fteep and high towards the Village. In the South fide of it, hard by the above Village, there is a Chafme feveral fathoms deep, in which in the middle of Summer, even in the hotteff days, there is obferv'd fuch a coldnefs that the Water, as it drops down, congeals into long Icicles, which hang down from the very Mouth of this Cavity. The Open-渦器
ing is pretty large, and lies directly Southward; yet the hotter the Sun fines, the harder it freezes here ; and when it freezes in Winter, 'cis warm here, and a Steam comes forth, as from a Stove.

If a Gentleman was to build a Country Seat near this Cave, he might by Pipes convey the cool Air from thence into all the Apartments, which would make them exceeding pleafant in the heat of Summer. Megiferius, in his Defcription of Venice, 7. 1, c. 24, and Les Delices d'Italie, relate, That a Nobleman of Vicenza, at his Country Seat contriv'd a Machine to cool the Air in the Apartments to what degree he pleas'd. Over the Gate of his Palace you read the following Verfe of Virgil's:

Solus bic claufoventorum carcere regnat.
Near it, in the Wall, you fee a fquare Stone with this Infcription :

A ${ }^{\text {e }}$ 1560, Francifcus Tridentius, in the $22^{d}$ Year of bis Age, has by a new and wonderful Art brought the cold Air from the

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neigbbouring Cave, into all the Apartments of this Seat; for webich Contrivance it is very jufly reckon'd among the Royal PleafureHoufes.

The other cold Cave is farther into the Mountain, and is fpacious and light, in a Cha!k-Rock; likewife very cold in Summer.

## Chap. VI.

Of the Cave near Queftenberg call'd The Hacker's Hole.

T HIS Cave feems to have been defign'd by Nature for a Cellar: 'Tis fituated at the foot of the Mountain, behind a Peafant's Houfe in the upper part of the Village.

At the Entery of the Cave you defcend by a Ladder into a fpacious and lofty Vault ; from hence you go down by another

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ther Ladder into a very large dark Cave, that runs a great way under the Rock, wherein is a Water, which being vaftly deep, few People care to near it.

Here is nothing elfe to be feen worth notice, but fome of the Drop-Slone, which doth not grow here as in other Caverns, in long Spires ; but is bufhy, like Wool.

## The Cavern call'd the Thieves Den.

This Cavern is fituated in the County of Stolberg, not far from Ufftrungen, near the Mountain Seaberg, and goes by the Name of Thieves-Den, becaufe 'tis reported that formerly a Gang of Robbers kept their Rendezvous here. ' ${ }^{\text {Tis fo dark that one }}$ can fee nothing in it without Candles or Flambeaux : The Entery is very narrow, and a Man muft creep upon all-fours to get in. Then you defcend into the fecond Grotto, from thence into the third, and fo on : But the Guides do not care to go as far as one may, becaufe (they fay) that at the Entery of the lowermoft Grotto there
is a very deep Pit, over which People muft leap in order to advance, which cannot be done without great Danger. 'Tis affirm'd by fome, that in this laft Grotto is a Rivulet, wherein is found Gold-duft among the Sand, as in the Baumans Cave; and, that fome People living in that neighbour, hood had found there fuch rich Ore, that they had privately acquir'd much Wealth by it.

There is alfo found in this Cave a great number of human Sculls, that are ranged in good order, which (the Guides fay) is done by thofe who privately dig for the Ore, to make People believe that Robbers and Murderers lay hid there, and to deterr others from the like Practices.

## The Cavern in the Mountain calld The Heger's Horft.

In the Lower Hartz, in the Bailiwick of Stiege, belonging to the Dukedom of Brunf. wick Wolfenbuttel, there is a Mountain,
call'd
call'd The Heger's Horst, at whofe foot is a triple Cave, without a particular Name.

The Entery is very low, fo that one muft creep to get in: From hence you come to three Caves, one behind the other, which are not very long, and but low and narrow. Both Sides of the Walls are adorn'd with bright and tranfparent white Stones of diffe, rent fizes: The part which is hid in the Rock is fixlateral, terminating in a Point; and that which is expos'd to view, flat and polifh'd. Thefe Stones are of the Cryftal kind, and pretty common among the Ore in the Mines of Hartz-Foreff. Here is alfa found, in fome Clefts of the Rock, a kind of Earth that contains a yellow glittering Matser ; the common People take it to be good Gold, imagining that there are about this place fome rich Gold Mines: But I took fome of it, and wafh'd off the earthy Particles very carefully, till at laft I had the glittering Matter by it felf, which I examin'd with a Microlcope, and found it to be Sand, which I put upon the Teft, but cou'd get neither Gold nor any other Meta! from it,

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## Chap. VII.

of the Dwarf-holes near Walkenried.

ABout Ten Englifh Miles from hence, near Walkenried, there are feveral Chalk-Mountains, for the moft part hollow, call'd by the Country-People Drearfboles. I can relate nothing particular of them, becaufe the Enteries are in a manner choak'd up with Stone, fo that you cannot get down into any of 'em. As far as one can fee, the Walls of thofe Vaults appear to be fmooth and polinh'd, as if it had been done by Art.

## The Dwarf-holes between Elbingrode and Rubeland.

The Dwarfoboles in this Country are in the fame condition as thofe above, wherefore I can give the Reader no farther Information about their Subterraneous
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of Hartz-Foreft.
ftate. As there are many different Opinions among the Curious, about the Nature and Ufe of thefe Caves, it may not be improper to mention here fomething concerning that Controverfie.

The Common People are pofitive that they were inhabited by Dwarfs, and pretend to corroborate it by what they heard from fome ancient People, who affirm'd, That Dwarfs liv'd in thofe Caves, who ufed to be ferviceable to the Inhabitants of Elbingrode : For inftance; when they wanted to prepare a Wedding-Dinner, the Parents, or any near Relations of the Bride and Bridegroom, went to the Caves and ask'd the Dwarfs for Copper and Brafs Kettles, Earthen Pitchers and Pots, Pewter Difhes and Plates, and other Kitchin Utenfils ; then they retir'd a little, and when they came back found every thing they defired fet ready for'em at the Mouth of the Cave. When the Wedding was over, they return'd what they had borrow'd, and in their Benefactors.

Several Authors deny that there ever were any fuch People as Dwarfs, and fay that thefe Caves were formerly places of Refuge, where the neighbouring People hid themfelves in time of War,

Zacharias Rivander, in his Chronicle of Thuringia, as likewife Cyriacus Spangenberg, in his Chronicle of Mansfield, and Valvafor, in his Defcription of Crain, Tom. III, are of Opinion, that when Attila King of the Hunns over-tan Bavaria, Franconia, Tburingia, Saxony, and the Hartz, the Inhabitants, which look'd like Children in comparifon with Attila's Soldiers, who were of a large fize, retired for fafety into thefe Caves; from which time they had been call'd Drearf-holes. But as this Paffage is not agreed upon among the Hiftorians, it may be as much difputed as the exiltence of Dwarfs it felf.

Strabo, in his Geograpbia, 1.2, denies that there ever were any fuch People, or Families,
lies, as we underftand by the Name of Drearfs. Homer, in his Iliad, 1. r, and Ovid, 1. VI, Metamorph, and Fuvenal, Satyr 13, tell many fabulous Stories about them, which fome Hiftorians taking for Fact, have follow'd. And Munfierus, in his Cofmograpbie, writes, That Dwarfs beget Children in the third or fifth Year, and die in the eighth or ninth, and a deal of fuch fabulous ftuff about'em; for which reafon Albertus Magnus difcredits the whole, and fays, that what fome Authors fay about Dwarfs muft be apply'd to Monkeys. But many learned Men maintain, that there were in former Days fuch kind of People. Among others, Cafpar Schottus, in his Pbyjca Curiofa, Part I, l. 3, treats upon this Subject at large, and quotes many others who affirm the fame, He fays, that it might with as much reafon be deny'd there were any fuch People as Giants in the Land of Ca naan; for if Nature, in producing thofe huge People, erred in Excefs, it might like. wife very reafonably be argued that She was capable of committing an Error on the
the other fide, and produce Men of a defective Stature ; as every body fees it happeneth now-adays. Now, if 'tis granted that there were fuch Creatures, it may very well be fuppos'd that fome of 'em dwelt in thefe Caves.

But the grand Query is, Whether there are at the prefent time extant any fet of People of that diminutive fize; which altho' it doth not properly belong to this place, yet for the fatisfaction of the Curious, I will mention in few Wards fomething about it.

Cafpar Schottus, in the above-cited place, thinks there are not, for that it would be fufficiently known, fince almoft every part of the Globe that is inhabited has been vifited by Travellers, and none of 'em affirm that they met with any. But Fobu: $L u$ ciolfus, in his Hiftoria Etbiopica, lib. r, fays, and pretends to prove it, that there were Dwarfs formerly, and that that Race continues to this Day. Fob. Ludovic. Golfried, in his Hifor. eAntipod, Part 1, fays, that there
of Hartz-Foref.
there are in the Defarts of Brafile a People of a very fmall fize, which by the Inhabitants are call'd Tydigirs; which I leave to be decided by thofe who have been in that Country.

Paracelfus, in his Occulta Philofopbia, and his Follower Kornmann, de Monte Veneris, cap. 9, mention a fort of Dwarfs which were not common Men, but a particular Race ; and pretend that God made another Specie of Men befides eAdam, which were neither Men nor Spirits, but between both, and dwelt under Ground. They had fomething analogous to Flefh and Bones, which was fo fubtile that they could pafs thro' Walls: They eat and drank, and begat Children, hoarded up Treafures under Ground, and made the Ore and Precious Stones, $\xi^{\circ}$ c. But this ridiculous Doctrine is fufficiently confuted by the faid Scbottus, as alfo eAbrabam Seiael, in his Pneumatologia, or eAccount of Spirits. The latter fays, that thofe Beings mention'd by Paracelfus were Devils, who, to blind the Credulous, took Food, § ${ }^{\circ}$.

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Concerning the other Opinion, That People retired into thefe Caves for Safety, 'tis very certain that many Families did fo in the German Civil Wars in the Year 1630 , and following. It appears therefore that both Opinions may be maintain'd ; both that the Devil play'd his Pranks there, in the fhape of Dwarfs ; and, that fome of the Inhabitants hid themfelves in there $\mathbf{C a v e s}$ in Times of Trouble。

## Chap. VIII.

## Of the Cave at Bifhofferode.

FI V E Englifh Miles from the Imperial City Nordhaufen, in a Wood belonging to the Manor of Biflofferode, there is a Cave, call'd The New Cave. The Entery of it is fo wide that it admits Light enough to view the infide quite to the Bottom, without the affiftance of Candles. From thence you defcend a deep and fteep Hill with much Difficulty and fome Danger,

## of Hartz-Foreft.

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becaufe the Rock is flippery, and there are no Steps to go down by. When you have got to the bottom, you find your felf in a fpacious Grotto near 300 feet long, and 250 broad, and is vaulted in a very ftrong Rock: Almoft the whole Area is taken up with a clear Water, which is without any motion, and neither encreafes or diminifhes, and is fo deep that no one did ever reach the bottom of it. Thro' the midle of this Water, the whole length of the Cave, runs a Rock like a Wall, which parts, it in two,

This Cave is remarkable for its prodigis ous Depth. 'Tis to be noted alfo, that formerly, when the Romifh Religion was profefs'd here, 'twas believ'd that yearly fome Perfon was to perifh here, unlefs an Atone* ment were made in a public manner ; wherefore a Prieft came once a Year, on a certain Day, from Elbingrode to the Chapel upon the Hill oppofite to this Cave; from whence he, attended by a great number of People in a folemn Proceffion, came to the Cave,
and let down into it a Crucifix, whicli he pull'd up again, and took this Occafion to remind them of Hell, and to avoid the Punifhments due to their Sins: As may be feen in the'foremention'd Epiflle of Eckformius.

## The Cave at Sachswerff, call'd the Goat-Hole.

Not far from hence, in a fteep Mountain, lies the Cave call'd The Goat-Hole. It has obtain'd this Name from the Goats which the Inhabitants ufed to keep upon that Mountain, who fhelter'd themielves there in time of great Storms or Rain.

After you have pais'd the narrow Entery, you come into a large dark Cave, from whence you get, thro' a narrow Palfage, into another, which is vaulted in a Rock, and fmooth under-foot, as if plaifter'd. At the farther End there is a Pit full of Water of a prodigious depth. 'Tis very cold in this Cave, which I imagine may partly be owing to that Water.

## PARTII.

## Of the Lakes and Pools occafion'd

 by the Subfiding of the Earth near and in Hartz-Forefl.
## CHAP.I.

Of the Pool near Hochftad, and the Ifland fwimming upon it.

IN the Diftrict of Clettenberg, near the Village Hochfad, on the top of a Moun= tain, there is a large Cavity made by the finking of the Earth ; of which Conradus Dunkelberg, Rector of the School at Nordhaufen, has given a Defcription in a Programma publifh'd in the Year 1696.

This

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This Pool is round and conical, the upe per Circumference being 2560 foot, but at the furface of the Water only 1792. The upper Diameter 816 foot, and the lower but 576. The Diftance from the Brim to the Surface of the Water is 176 foot, and the Water is 72 foot deep. There were formerly very large Pikes in this Pool, but that fort of Fifh are now rarely to be found there. - This was a reaten of a Votrano

Upon this Water is a moving Ifland, which was formerly round, but feveral pieces having been rent from it by Lightning, it looks now like the Maon in the Firt Quarter. It is 224 foot long, and 64 broad. Grafs and other Herbage grows upon it, and the Wind drives it about from place to place.

Of a Dool near Gruningen, and the Ifland fwimming upon it.

Near the Caftle of Gruningen, in the Principality of Halberftad, oppofite to Hac-kel-Foreft, is another Pool made by the finks.

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\text { of Hartz-Foref. } \quad 58
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finking of the Earth. The Ifland that floats upon it is grown all over with Reed, and is a Sheiter for wild Ducks. Many Authors have been in doubt whether there were any fuch thing as floating Iflands Herodotus mentions an Ifland floating upon the Egyptian Sea Cbemnit, upon which there were Forefts, and a famous Temple dedicated to eApollo. Mela, lib. V, cap.V, writes, That near the Head of the Nile there is a Sea, upon which is an Ifland with feveral Forefts and Buildings, that fails about like a Ship as the Winds blow. Plinius, 1.2, c. 95 , relates of the Sea Vadimonis, call'd by the modern Italians, Lago di Baffanello, or Lago di Viterbo, that there is a floating Ifland, with a thick and dark Wood, always in motion. Kircher, in his Defcription of Lakes, mentions, That the Lake near Tivoli call'd Solvatera, carries 16 floating Iflands, fome being round, and fome oval, with all forts of Herbs upon them. Valvafor, in his Defoription of Crain, Tom. 1, L. 4, fays, That between St. Marain and the Town of Weichjelberg is a large Pool, upon

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which is a piece of Ground of a confidera: ble bignefs, with fome Trees and Grafs growing upon it, continually hulling about, which affords yearly feveral Loads of Hay.

I cou'd mention many other floating Iflands, but this will fuffice to convince Men that there are fuch.

The Opinions of the Learned concerning the Bottoms of 'em are various. Erafmus Francifci, in his eAnnotations upon the Defcription of Crain, has treated at large on this Subject, whereto I refer the Reader.

## CHAP。II.

## Of the Pool calld the Dancing-Pool.

T HIS Pool lies near the Goat-Hole be= fore-mention'd, and is very deep; you cannot perceive where the Water comes in, but
but it has a very vifible and ftrong out-let. When one rows upon it, and comes near: the foot of the Mountain, the Boat turns and winds about, which makes it feem as if the Mountain was dancing. The reafon of it is, becaufe there is a great Aperture in the Rock, under Water, into which the Water rufhes with great force, and occafions this Whirlpool, which attracts the Boat in fo violent a manner, that thofe who come within reach of it run great rifque of perifhing.

This Account was given by a Soldier who ufed to fifh there for Trout, and was alfo an expert Diver.

## Of the Pool near Rotleberode.

In the County of Stolberg, near the Village Rotleberode, upon a Hill, is a Pool made by a track of Land that was fwallow'd up; which happen'd in the manner following. A certain Peafant having been to plow that Ground, when he was hardly got from it with his Cattle, the Earth on a fudden funk,

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and made a very large and deep Cavity, It lay dry Forty Years, in which time Bufhes and Fruit-bearing-Trees grew in it fpontaneoully, fo that it look'd like an Orchard: But $\approx$ A. D. 1590, in Fuly, the Seafon being then very dry, this Pit with a thundering noife ípread it felf much wider, and immediately was fill'd with Water up to the brim.

## Of the Pool call'd Kreis-Hole.

This Pool lies about three Englifh Miles from Walkenried, in the Bailiwick of Clettenberg, and, according to Eckformiur, broke forth in the Year 153 I . A Shepherd ob: ferving on a mild Winter-day, when his Sheep were feeding in the place where now this Pool is, that fome Water came unexpectedly out of the Ground, was feiz'd with Fear, and drove away his Sheep as quick as he could: When he was come at fome diftance, he look'd back, and faw no more that Ground, but a Pool inftead of it. The Water was formerly 240 foot deep, but is
now much fhallower, by reafon of the Earth that is fell in round about it. There is plenty of Fifh in it. It has its Name of one Creifluc, who was fome time Steward to the Family of Hobnftein in the Caftle of Clettenberg.

## Of the Oxen-Pool near Hartzberg.

In the Principality of Grubenbagen, near the Caftle and Town of Hertzberg, is a round Pool call'd the Oxen-Pool. It is always full of Water to the brim, but never runs oyer. The Water comes in very faft, but there is no vifible out-let: They fuppofe it to be convey'd by fubterraneous paffages into the River Rbume, which fprings about fix Miles diftant, and fails into the Oder near Cattlenbery. ${ }^{\text {'Tis }}$ is remarkable, that hard by this Pool there is a very deep $\mathrm{Pit}_{\text {, }}$ made by the finking of the Earth, which is always dry ; perhaps by reafon of fome Rock that lies between both, and hinders their communication.

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Befides this, there is yet another oblong Pool near Hertzberg, which is alfo pretty well ftock'd with Fifh; but as I have nothing particular to mention about it, this may fuffice.

> Of Jeveral other Pools made by the jinking of the Ground.

In the County of Stollerg are found feveral Pools, viz. two near Ufftrungen, fome near Rotleberode, which diive the SmeltingMills, and another within the Village it felf; all which have a clear and running Water.
The following Pools ftagnate, viz. the Bernhards Pool, the Fach Pool, the Eagles Pit, the Rathers Pool, and many others.

Near the above-mention'd Creis-Hole there are five Pools more, call'd, the Raffol Pool, the Mill Pool, the Elige Grabenthal, the Opfier Pool, and the Anabaptifts Hole; call'd fo becaufe two of that Fraternity were drowned in it.

There

There are alfo feveral Pools of that kind found in the Diftrict of Walkenried, one of 'em was formerly remarkable for its prodigious Depth ; and two more near Elrick, which are capable of fupplying all the Neighbourhood with Fifh.

The Original of thefe Pools feems to be owing to the fubterranean Waters: They gradually wafh away part of the Ground that covers them, which having loft its Foundation, muft of neceffity fink by its own weight, particularly when the Ground has been foak'd by continued Rains, or fuffer'd fome violent fhock by a Storm of Thunder, or an Earthquake. From this fame Principle may eafily be deduced the different Bignefs of thefe Pools, which, no doubt, anfwers to the Depth and Quantity of the Subterranean Waters that caus'd 'em.

## С H a P . III.

Of the Hunger-Pool, alias the Peafants Ditch.

IN the Bailiwick of Rolla, belonging to the County of Stolberg, towards the lower-fore-Hartz, not far from Breitungen, is a long and broad, but not very deep, Pool, which takes up many Acres of Ground, call'd by fome The Peafants Ditch.

On the South Side of it there are fome Chalk-racks, with feveral Wrents andChafms in them. Out of one of thefe Chafms iffues forth, at uncertain times, and often in the dryeft Seafon of the Year, fuch a quantity of Water, that it not only fills this Lake to the brim, but lays all the neighbouring Plain under Water, fo that the whole Country looks like a Sea. It happens often that the Water abides too long, and hinders the Produce of Corn for that Year; wherefore the Countrymen gave it the Name of Huno ger-Poo\%

Sometimes Eight or Nine Years pafs without any fuch Inundation, and when the Water is come, its Reflux is as irregular ; for fometimes it flays but a few Weeks, and at other times above a Year, It runs off by the fame or fuchlike Subterraneous Paffages as it comes.

This Pool is fomething like that in the Dukedom of Crain, call'd The Zircknitzer Lake; of which the eAEta Anglicana, Anno 1669, Menf. Decemb. take notice, and Valvafor, in his Defcription of Crain, Tom. I, Lib. IV, defcribes at large: But is not fo great a Curiofity, becaufe it doth not bring with it fuch a quantity of Fifh, nor any blind and naked Ducks; nor doth it fpout upwards fo high as the other,

The Subterraneous Waters, which very probably are fupply'd by the melting of the Snow on the tops of the adjacent Moun. tains, occafion this Pool: But, as the Paffa. ges under-ground are hidden from us, we cannot demonffrate, but only guefs at, the ftrange and irregular Appearance of thefe Waters; which if the Reader will allow me
me to do, I will give him my Opinion upon it.

I fuppofe then there are near this Pool two others, the one fituated higher, and the other lower. The Water coming from the higher into the Hunger-Pool brings a great quantity of Mud with it, which ftops up the Paffages by which it fhou'd empty it felf into the lower Pool: And the Water from the upper one fill coming in, muft neceffarily caufe it to overflow. When the Mud which ftops up the Vent-holes is tenacious and ftiff, this Inundation remains fo long, till the Paffages are clear'd ; which the weight of the Water will effect in much lefs time when the Impediment happens to be of a loofe Earth, or a kind of Sand. Thus we may alfo imagine, that according as the Paflages from the Upper to the Heares--Pool are hard or loofely ftopp'd up, 5o is the Interval of the Water's breaking out; alcho' it is generally obferv'd, that in cafe of dry Springs 'tis fome Years without coming. Thefe are my Thoughts upon this

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\text { of Hartz-Foreft. } \quad 6 i
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this Pbenomenon, which I fubmit to the Cenfure of the Learned.

Baron Valvafor demonftrates the flowing and ebbing of his Lake in a different manner ; and fince I advance, that ours may in fome meafure be compar'd with his, it may be thought odd why I do not follow the fame way of reafoning : But the Subterraneous Communications of our Pool, and the manner of its Appearance, are very different; for the Water comes gradually into the Hunger-Pool, but from the Canals that bring the Water into the Zircknitzer Lake it. rufhes out in Spouts like an artificial Fountain, and rifes three or four fathoms high.

PART



## PARTIII.

Of the remarkable Springs, We lls and Water-works in and near Hartz-Foreft.

## CHAP. I.

Of the Spring near Queftenburg.
NOT far from the village Quefienturg is a Spring, which is fo ftrong that it immediately forms a Pond large enough to drive a Mill : From thence the Water finks under a Rock with a great Noife. The Inlabitants fay it falls into the Lake at Afcherleb, which is 50 Englifh Miles from hence: But their Conjectures are without ground;
ground; for as it runs off by Subterranean Canals, 'tis impoffible to tell where it ap. pears again.

## Of the Well near Gruningen.

In the Principality of Halberfiad, near Gruningen, in an even Fieid, there is a Cleft in a Rock made by Nature, which looks as if by Art it had been wall'd round and fitted up for a Well. When you drop in it a Stone, it falls into the Water (which is deep under-ground) with a great found, and one may plainly hear the rufhing noife of the Water that is running along at the bottom.

## Снар. II.

## Of the Spring upon Blocksberg.

N the top of Blocksberg you fee a Spring of a clear and well-tafted Water
'Tis admirable to find a Well upon fo high a Mountain : How this comes to pafs

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is not yet agreed upon by the Learned. Some fay, fuch Springs proceed from the Rain and Snow Water ; others pretend they all come from the Sea, according to the Saying of Syrach, Chap. 4I, Ver. II. But fince 'tis allow'd the Sea is not fo high as this Mountain, and the Water, according to the Rules of Hydroflaticks, can naturally rife no higher than the place it came from, the Patrons of that Opinion have invented feveral Expedients to bring it to bear. Some of them fay, that the Earth fucks up the Water like a Sponge : But if that were true, it fhould alfo fwell like a Sponge ; which is againft Experience: Befides, fuppofing the Water were thus fuck'd up, it follows not from hence that it muft iflue forth of it felf; for a Sponge affords no moifture till 'tis fqueez'd.

Others again pretend that the Water rifes to the Summits of Mountains by certain Tubes or Pipes, as the Blood doth in an Animal; as Plinius, l. 2, c. 3, intimates, taking it for granted, that the Water at the bottom of the Sea, being prefs'd upon by the
the great weight of the incumbent mafs, may eafily be forced up to the tops of Mountains. To which 'tis objected, firft, That the furface of the Sea is not fo high as this Mountain, which is upwards of 3000 foot elevated above the Horizon; and, that confequently the Water cannot be rais'd by it to fuch a highth. But if this were granted, another Dificulty arifes, which is, that the force of Preflure muff be calculated to a great nicety, elfe the Water might either not get to the Summit of the Mountain, or be forced up higher, and there rife above the Ground in the nature of an artificial Fountain ; which is never obferv'd on the Tops of Mountains.

Secondly, That if the Sea-Water did afcend as thro' a Pipe, it muft then retain its tafte, and could not be fweet, as thofe Springs are. Wherefore the moft plaufible Opinion to me is, that the Water, being rarify'd by the Subterranean Heat, rifes in the nature of a Vapour till it gets to the Summit of the Mount, where the external Air condenfes it into Water. Of this we F fee
fee an Example in Diftillation, where the Steam that afcends from the hot Retort fo foon as it gets to the cool Receiver, is condens'd into Drops of Water. Anton. le Grand, in his Hist. Nature, part 4. likewife the Author of the Prilofoptia vetus $\mathrm{E}^{\circ}$ nova Burgundica, part 2, c. 3, befides many others are of this Opinion.

This Syftem may be apply'd to moft Springs upon Mountains, but I think the chief caufe of that upon Blocksberg is the Snow, which lies there almoft all the Year round, and the frequent Rains and Mifts that fall there.

Near this Spring lies a great Stone, to which formerly was chain'd an Iron Ladle for Travellers to tafte the Water in; which is fo exceffive cold, that fometimes in the Dog-days you cannot take it in your Mouth, much lefs drink any of it.

CHAP 。

## С н а р: III.

## Of the Childrens Well.

THIS Well is upon Rammelsberg; (a Mountain famous for its Mines near Goflar) and has a clear Spring the big. nefs of a Man's Arm. It is cover'd with an Arch, and over the Door are placed two Children hewn in Stone. Schreiber, in his Account of the Beginning and Progrefs of the Mines belonging to Brunfwick-Luneburg, relates, That in the Year 1016 one Gunther. Carl, to whom the Emperor Henry II. had given Rammelsberg, went up thie Mountain with his Wife, who was then big with Child and long'd to fee this Spring. When they were come to it fhe fell in Labour, and was deliver'd there of two Sons; wherefore fhe gave it the Name of the Cbildrens Well. Conrad II, Emperor of Germany, had Pipes laid from it to his Palace in Gofar; whieh Palace being de-

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ftroy'd,

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ftroy'd, it now fupplies part of the Town with Water.

## Of Elizabeth's Spring in Nordhaufen.

It may feem odd to make mention of a Spring in a Country where there are fuch numbers of 'em ; but thofe who know the Value of pleafant and wholfome Water will eafily excufe it.

This Well lies in the Suburb, near the Church belonging to St. Elizabetb's Hofpital, from whence it borrows the Name. The Source is near the Town-Ditch, from thence the Water is convey'd thro' Iron Pipes under the Church to a Ciftern, which is vaulted over : 'Tis reckon'd the cleareft, the pleafanteft, and wholfomeft Water in this Country. The Spring is never dry, but affords at all Seafons more Water than is ufed. 'Tis remarkable, that a certain great Brandy-drinker, being reduced to the ufe of Spectacles, and withal grown fo very poor that he was oblig'd to drink Water, he conftantly made ufe of this Well; where-

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\text { of Hartz-Foreft. } 69
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whereupon he recover'd his Eye-fight fo well, that he could read again without Spectacles, as before.

## Снар. IV.

## Of the Salt Springs near Auleben.

NEAR the Village Auleben, in the
County of Schwarzenburg, are fome falt Springs, which were formerly prepar'd for boiling by the Leck-work.

The Leck-work is a long Building, about 16 foot wide and 8 foot high, cover'd on the tnp with Tiles, Slate, or Straw, and is open below to the accefs of Air and Winds. A Trough is placed under it, which runs the whole length of the Building, and is fill'd with the falt Water: Over it there hang long bundles of Straw, upon which the Water is flung from both fides when the Sun

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Shines, to evaporate the fweet Water; When this Labour has been repeated, the Water is with little Coft boil'd in Pans to the confiftence of Salt. In this manner thefe falt Springs were work'd in former days, but lie now quite neglected, perhaps becaufe the Springs are declined in richnefs: Wherefore there is nothing now to be feen here worth notice, but fome Maritime Plants.

## Of the falt Spring at Franckenhaufen.

'Tis fituated in the City of Franckenbau? fen, which is famous for its Salt-works. The Contrivances and curious Machines made ufe of in that Work are too numerous for me to defcribe here, and would furnifh Matter fufficient for a Treatife by it felf.

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\text { Of the feveral deep Draw-Wells in } \\
\text { Hartz-Foreft. }
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Befides the feveral Wells mention'd before, there are fome Draw-Wells which, becaufe of their great Depth and Expence
to fink 'em, are very remarkable. Many of them are fallen to ruine, and no more taken notice of; thofe that are yet exifling having nothing particular befides what we obferv'd already, I will only name the two moft remarkable ones; as, firft, the Well in the Caftle of Schroarzfels; and, fecondly, that in the Caftle of Reinsteim, which two excel all the reft.

## Снар. V.

## Of the Water-Works in the Garden at

Heffem.
N the Garden at Heffem, belonging to the Duke of Brunfwick-Wolfenbuttel, there is a curious Brafs Fountain, which the Duke prefented to his Dutchefs for a New-years Gift, and coff about Eleven hundred Pounds Sterling. 'Tis fupported by a Marble Wall. Two Walks adorn'd with Iron Rails finely wrought furround it. Betwixt the Pavement of the lower Walk are placed numF 4
bers
bers of Leaden and Brafs Pipes, fo artfully that they cannot be perceiv'd; by which means a Perfon ftanding there may be wet to the Skin, whilf he that ftands on the upper Walk remains untouch'd.

The Fountain is made as followeth Firft, there are three large Griffins; between them ftand fome Lyons, Lobfters, and Sea-Crabs, that fupport the Baffin. In the infide of this Baffin are reprefented Muffles, Frogs, Soals, and other Sea-fifh, done to the life: Out of the midle of the Baffin rifes a Rock, upon which are carv'd Frogs, Toads, Serpents, E®c. Upon this Rock ftand fix wild Bulls, which fupport the fecond Baffin ; between thefe Bulls are feveral three-headed Dragons, which together with the Bulls fpout Water from their Mouths. From this Baffin there rifes another mals of Stone, upon which is carv'd the Hunting of a Stag, the Huntfman, Hounds, and Stag finely reprefented; and feveral Horfes ftanding on their hind-Feet fpout Water from their Mouths; Pelicans, who give Water from their Breafts; Mon-
keys p'aying on Bagpipes, befides many other Creatures, who all fpout Water. On the top of all, there ftands a Stag, as part of the Arms of Brunfwick-Luneburg, which fends forth Water from his Mouth, Horns, and fore-Feet.

Not far from hence is a Fountain reprefenting Diana bathing her felf, in a Baffin made with rude Stones, as tho' it were form'd without Art : The bottom of it is cover'd with Tin, where fits Diana with her Nymphs naked; in the midle is a Cupid gilt, fanding upon a Dolphin, and cafting Water from his Mouth, which falls into the Bafin. Oppofite to Diana, behind a Tree, ftands Acreon with his Hounds, with a Spear in his Hand and Horns on his Head, which, according to Ovid, were the reward of his Curiofity. The Figures are finely finifh'd, and painted with Oil-Colours. This Fountain ftands in a fquare place that is 24 foot in diameter, furrounded with Iron Rails. On each Corner are placed human Figures ftanding upon Dolphins; and near each of the three Doors that go down

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down to the Fountain, there are placed two Dolphins, one on each fide, upon a Poft, which all pour forth Water. The place within the Rails is paved with Peble-ftones, among which there are hidden many fmall Pipes of Lead, which all play, and wet thofe that are within the Rails, when a certain Cock is turn'd.

In the midle of this Garden, before àn Arbour, ftands a curious Figure reprefenting chafte Lucretia, with a Dagger in her Hand, from which the Water darts upwards.

Of the Fountain in the Garden at Sonders haufen.

This Fountain ftands in the midle of the Garden, and delights as much the Spectator's Eye with its Cryffal Stream as it pleafes the Ear by an agreeable Murmuring. The Water is convey'd hither from a Mountain 2000 yards diftant ; and altho' the Garden lies on a pretty high Ground, yet the Fountain throws up the Water 24 foot high, which

## of Hartz-Foreft.

which falls into a round Baffin 6 foot deep neatly paved with Free-ftone.

## Chap. VI.

## Of a kind of Water-Engine ufed in the

## Mines in Hartz-Foreft.

IN former times the Water was pump'd from the Mines by common Pumps and other Engines now out of ufe, which were work'd by Men with abundance of Labour; but the Engines, that have been invented fince, make the Work very eafie. There is'a Wheel fufpended in a running Water, fometimes a Thoufand fathoms from the Mouth of the Mine, which has on the farther end of its Axletree an Iron Peg governing the whole Engine, and pulling to and fro the Bars that go from thence to the Mine. Thefe Bars, of which there are a great number from the Wheel to the Minepit, are long pieces of Wood, link'd toge-ther and fecur'd with Iron, becaufe of the

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great preffure they fuftain : At the end of them, over the Shaft of the Mine, there is a Crofs which preffes the Sucker downwards in the Pipe when the Bars are pufh'd from the Wheel, and pulls it up when they are drawn towards it. The Pipes are commonly of caft Iron, except in the Mines of Rammelsberg near Goflar, where they are made of Wood, becaufe the Vitriolic Water foon confumes the Iron. They are not all placed perpendicular over one another, but one fet of five fathoms brings the Water upwards toward another fet in manner following; the loweft fet draws the Water up from the bottom, and empties it into the firft Trough, from thence 'tis brought up into the fecond, and fo on, till it falls into the Adit or Trench dug thro' the Mountain to carry off fuch Waters.

CHAP.
of Hartz-Foref.

## CHap. VII.

## Of the Water-Works at Nordhaufen.

TO fupply the Upper Town, which lies on a high Mountain, with Water, feveral Wells were funk, which not being fufficient, the following two Water-works were contriv'd for that purpofe.

The firlt is call'd The Upper Water-work. It was begun by Fobni Laxuern, $A^{\circ}{ }^{\circ} 546$, who brought up the Water 170 foot; afterwards 'twas carried up 528 foot, by one $P_{e}$ ter Gunther, wherc it remain'd. The firf, I fuppofe, was done by an underfhot Wheel, which has not near the Force of an overfhot Wheel; as Cbrittian Bernbard, in his Explanation of the Terms ufed by Miners, annex'd to the EJay-Book of Lazarus Erker, has plainly demonitrated. The Houfe where this Water-work is, ftands in the Suburb near the Church: From hence the Water is forced up thro' 84 Brafs Pipes, each 6 foot long
long and $56 \%$ weight, to anotlier Waterhoufe, where it falls into a Ciftern, from whence 'tis convey'd by 160 Wooden Pipes thro' the Town-ditch, and under the Citywall, to another Waterhoufe near the CityCouncil's Stables; from this place 'tis rais'd by rioo Pipes up to the Ciftern in the CornMarket, from whence it runs to the Dwelling and Brew-houfes, by means of 28 fquare Cilterns under-ground, which are carefully cover'd, and every one furnifh'd with a Brafs Cock.

The other Water-work is call'd the Lozeer one. This was likewife made by Gunther, but doth not come up to the other, becaule 'tis work'd by an underfhot Wheel. The Water is raifed by it 444 foot. The Waterhoufe ftands alfo in the Suburb, near the Mill-ditch, from whence the Water, thro ${ }^{8}$ ${ }_{71}$ Brafs Pipes, as above mention'd, rifes up the Mountain, till it comes to the New-way Gate, where it falls into a Refervoir, from whence, by 721 Pipes that run in different Directions, 'tis convey'd to the neighbouring Houfes; and coming to another Refervoir, 'tis from thence carried higher.

PART


## PARTIV.

## Of the Rivers in Hartz-Foreft.

## CHAP. I.

of the River Zorge near Nordhaufen.

THERE are no navigable Rivers in this Country ; the chief in my Opinion is what we here call the Field-water, which is convey'd into the Ditch at Nords baufen, where it drives feven Corn-Mills, one Paper-Mill, feveral Tann and Oil-Mills, two Water-Engines, and one fmall Iron Hammer. By fome 'ris call'd the Zorge, becaufe it fprings near a Village of that Name.

This

This River abounds in Fifh, particularly above and below this City, where a fort of Fifh call'd Forell (a fmall kind of Trout) are catch'd, which are of a delicate taffe; but as the Citizens have liberty to fifh there all the Year round, that Fifh is now very rare to be met with.

The Zorge overflows often in Spring, by reafon of the Snow-water that comes then down from the Mountains, and many times doth great damage to the Mills, Bridges, and the Houfes fituated in the Valley; of which there is a dreadful Inftance in Ericus Chrijtoph. Bobne's Chronicle of Nordhaulen, Ch. I. The Author's words are as follows.
" Since I mention the Church of St. Cy " riac, which ftands near the Bridge built "" acrofs the Zorge, I cannot forbear obfer" ving the following Accident. In the "Wall of that Church are feen three Crofo " fes made with Bricks, which by reafon " of Age are turn'd yellow ; over them, " jult under the Roof, is the Figure of a "Prieff
${ }^{66}$ Prieft in his Habit, holding a Chalice up " towards Heaven with both his Hands. "The Explication is as follows:-When " this Country was under the See of Ronze, " one day as a Prieft,ftanding before the Altar " in this Church, was going to adminifter "the Sacrament to fome of Wis Parifhio" ners, who were then about him, there " happen'd a terrible Storm of Thunder " and Eightning; and a fudden Cataract of
"Water coming down from the Clouds at "the fame: time, caufed fuoh an Inunda"tion that it bore away the Prieft, the "Communicants, and beft part of the "Church; wherefore, in perpetual Com${ }^{6}$ memoration, thefe three Croffes have " been made in the Wall, to fignifie the "s number of People that perifh'd at that " time. The Bells had been carried a con" fiderable way off, and were fome Weeks " after difcover"d by a Sow, as the was "turning up the Ground.

Altho' the Zorge proves often in Spring fuch a dreadful River, yet in Summer, except in time of fudden $R$ inss, it contains but very little Water.

## Chap. II.

## Of the River Rode.

TH E River Rode is the fecond confiderable River on the Hartz. It fprings about Blocksberg in three places, and runs Weftward thro' the Voitfland, to Quedlinburg, from thence to Saxony, and laftly falls into the River Saale. This River, as it runs along in the Hartz, makes a boifterous Noife, by reafon of the many Stones and Rocks the Water runs againft ; but when it comes near the Saale, its Chanel being fmoother and deeper, it flows very ftill, without any rufhing. It abounds pret* ty much with fmall Trout, and other kinds of Fih ; and often overflows in Spring, for the fame reafons as mention'd in the above Chapter, and with as fatal Confequences as the Zorge.

In this River, under the Rofs-Trapp, or Horfe-froe, (of which fee Part Y.) there is a deep

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deep and almoft bottomlefs Whirlpool, call'd by the Inhabitants Creful.

## Of the River Helme.

The River Helme fprings near the Village Stokey, from thence it runs by the Villages Gunzerode and Hefferode, and near Nordbau. fen falls into the Salfe; afterwards it runs by the Villages Sundbaufan and Utbleben, to the Town of Herringen, where it unites it felf with the Zorge.
 and other fort of Fifh, which often come into it from the neighbouring Fifh-ponds when an Inundation happens. This River alfo is fubject to overflow in Spring, and to caufe great Damage to the adjacent Country.

## Of the River Salfe.

This River fprings near the Village Salfe; from feveral Sources; which, fome fay, come from a Cave call'd The Nerw Cave, becaufe when you fling chopp'd Straw into that G 2

Cave

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 The Natural HiforyCave, it comes out again at fome of thefe Sources ; which as I have not experienc'd, I cannot affirm it for Truth. There iffues fuch quantity of Water from thefe Springs, that the Stream is ftrong enough to drive an Oil-mill which is hard by. From this Mill the Stream runs to the Village Salfe, and thence thro' the Territory of NordbauSen, to the Bridge of Werth, and falls into the Helme: Where 'tis oblerv'd thefe Waters do not mix immediately, but may be diftinguif'd a confiderable way down the Current, the Water of the Salfe being clear, and the other muddy. The reafon may be partly the fwift motion of the two Waters, and the different Confiftence of them; the Helme being a thick and heavy Water, and the Salfe a clear and light one.

Befides, this River is of great Ufe to the City of Nordbaufen and neighbouring Country, becaufe it drives thirteen Mills, and as it freezes very feldom, even in the fevereft Winters, the Corn-Mills may always work; wherefore it is look'd upon, with refpect to that City, as a peculiar Gift of Nature.

## Of the River Gofe.

This River is not large, and fprings in the Upper Hartz, not far from Goflar, into which City it is convey'd by means of a Canal.

They fay it took its Name from a Huntfmann's Wife, call'd Gofe, who difcover'd the Mines of Rammelsberg, according to George Engelhard van Lobneijen, Part Y. of his Account of Mines.
'Tis remarkable of this River, that at Goflar they brew with this Water a fort of Beer of a very pleafant tafte, that is fent far about, up and down this Country. When boil'd with Bread, it taftes like Wine, but loofens the Body, particularly of thofe who are not ufed to it; which may partly proceed from the Mineral Particles in the Wa ter, and partly from the Dregs of the Beer, which are reckon'd the dainty part of the Liquor, infomuch that 'tis always fhook about before it is drank.

## Of the Ocker or Oker.

This River fprings in the Upper Hartz, and runs towards the Hammer-Mills about Three Englifh Miles from Goflar. Great quantity of Wood is floated down npon this River, which at thefe Mills is taken up and carried upon Waggons toward the Smeltinghoules about Rammelsberg.
${ }^{\prime}$ Tis remarkable that no Fifh is found in this River for the fpace of Twelve Englijh Miles from Goflar, occafion'd by the Vitriol Water pump'd from the Mines, which there unites with ic; till by long running'tis diluted with a fufficient quantity of fweet Water.

PART

## PARTV.

Of the Remarkable Rocks and Quarries in and near HartzForeft.

## Chap. I.

Of the Rock near the Convent Ilefeld, calld the Needle-Ear.

SIX Englifh Miles from Nordbaufen, av bove the Convent call'd Ilefeld, to the left, near Hartz-Waggon-Road, on the upper part of a high Mountain, is fituated a Rock which is ftrong, and has a Hole going thro' the midle of it refembling the Ear of a Needle. The Common People tell many fabulous Stories about the Original of this

G 4
Stone,

Stone, too ridiculous to infert here ; but'tis probable it was erected for a Monument to fone Eminent Perfon buried thereabouts.

## Of the Rock call d tbe Goofe-Bill.

Not far from hence, in the Loweer ForeHartz, there is a Rock which looks like the Bill of a Goofe ; wherefore 'tis call'd the Goofe-Bill.
of the Monk-Rocks in the Neighbourbood of the Convent Michaelftein.

In the County of Blankenburg, near the Convent Michaelftein, in a Foreft, are two high Rocks, reprefenting two Monks in their Habits, as if form'd by Art; and therefore they are call'd the Monk-Rocks.

Of fome Rocks near Blankenberg ranged like a Wall.

Three Englifh Miles from Blankenberg, you fee feveral very high Rocks, running rowards the Eaff, exactly refembling a Wall, which
hich ftand in fo true a line and exact order, that you cannot behold 'em without Admiration.

Of the Devil's Wall near the Villare Thal.
Six Englifh Miles from the Town Quedlinburg, in the old County of Rbeinstein, near the Village Thal, is a Structure refembling a Wall built with huge maffy Stones, which, both by reafon of its highth and prodigious bignefs of the Stones, 'tis impoffible the Hands of Man could have raifed. The Common People fay it is the Work of the Devil ; but the Glory of this wonderful Pile is with more Juftnefs afcrib'd to the Powerful Hand of the Almighty Archio tect.

> CHAP。

## C h a P. II.

## Of the Rock call'd the Horfe-floe.

TH IS is likewife not far from the Village Thal, When a curious Perfon has a mind to fee this Rock, he muft take a Guide with him from the Village, who carrying him thro' feveral Thickets and Woods, in about an hour and a half brings him to two Rocks, which are fomewhat afunder, but by a Stone underneath are thus as 'twere joyn'd together, that a Perfon who is not giddy, or fearful, may get from one to the other. Under thefe two Rocks there is another, which is very high and conical, and fomewhat flat at the Top, where one fees very plainly the Impreffion of a Horfe's Shae, being almoft round, as big as a midle. fize Difh, and commonly full of Water.

## The Rock calld The Maiden Leap.

On the left-hand of the Road from Hartz: gerode to Quedlinberg, near the River Selke, lies a Rock, upon which you fee the Print of a human Foot ; which, like the Horfhoe, I take to be a Lufus Natura, altho' the In. habitants tell a ftrange Story about it, of a Shepherd and a Country Wench, pretending this Footftep was made by a Leap the young Woman took to efcape from the hands of her troublefome Gallant.

## С C AP. III.

Of a curious Quarrey near Blankenberg.

ABout three Englifh Miles from the Monk ${ }_{9}$ Rocks, in the County of Blanikenberg, is a Quarrey, in which are found Stones fhaped exactly like Difhes, being round and hollow, of all fizes, fome fo big that the Inhabitants ufe 'em for Watering-Troughs for
for their Cattle. They are ranged one be hind another, in fuch an exact order that they feem to have been placed there by fome artful Hand: Which ftrange Pboenomenon is very juftly rank'd among the chief Rarities of Hastz-Foreft.
Of the White-Alabafter Quarrey.

Six Englijh Miles from Nordbaufen, towards the Lower Fore-Hartz, near a Village call'd Hartzungen, is an Alabafter Quarrey: Befides this, there is another but three Miles from Nordbaufen, which with the Lime-pit was given to our City-Council by the Emperor Charles, An. Dom. 1638 . Of both forts of Alabafter one may have Pieces of all fizes: Sometimes there are Pieces broke that weigh 10000 (or more) pounds. The Price is according to the greatnefs of the Pieces; Pieces from 50 to ioo Ton coft a Rixdollar per Cent. others from 30 to 50 , Fifty-pence, and from ro to 30, Forty-pence; and fo the Price decreafes according to the bignefs.

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Of the Quarrey calld the Beautiful Maids's or Damfel's Stone.

There are two Quarries of this fort of Stone, the one in the Bailiwick of Cletten-- berg, near the Village Horningen, and the other in the Bailiwick of Hobnstein, not far from the Village Wiegerdorff. This Stone is much harder than the Alabafter, wherefore 'tis defervedly counted among the forts of Marbles. The Name was given it from the Beautiful Look it has, it being extreamly fine Fein'd. It is not broken in fo large Pieces as the Alabaffer, yet big enough to make Tables from it. The Hundred weight cofts Forty-pence.
Of the Red-Alabafter Quarrey.

In the County of Stolberg, near the Vilm lage Ufftrunger, and in the County of Scwarzenbury'-Rudolstad, not far from the Village Badro, is a Quarrey, where they break red Alabafter, or red with white Veins like

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like Marble. The Bignefs of the Pieces and Price are like thofe before.

## Of the Quarrey call'd the Walnut-tree Stone.

This Quarrey is not far from the Village Steiger-Thal, in the County of Stolberg. It is call'd The Walnut-tree Stone, becaufe the Stone dug there, when wrought, looks like finely-vein'd Walnut-tree. 'Tis fold like the two forts above.

## Of the Quarrey calld the Geographical Map-ftone.

This Quarrey is not far from Nordbaufen, near the Village Petersdorff, and is call'd fo becaufe the Veins of this Stone run like the Rivers mark'd in Maps of Geography. Of this Stone there are pretty large Pieces to be had; the Hundred weight colts Thirty-five Pence.

## Of the Grey-Alabafter Quarrey.

This Dark-Grey-Alabafter Stone is broke not far from the Village Neyerthal, and looks almoft black when wrought. Of this Stone there are Pieces feven or eight foot long, and as many broad, but are feldom above one foot thick, being commonly broke in Fragments from 3 to 15 inches thick. The Hundred weight of it cofts Thirty Pence. Sometimes there is found in this Stone a white fhining Vein two inches thick, which looks as bright as Mother of Pearl, and, when varnifh'd over, glitters like Gold• This fort of Stone is very proper for Tomb. ftones, Altar-pieces, $\xi^{\circ} c$. 'Tis fold, when wrought, at a Rixdollar the fuperficial foot. There are in this Town, at moff of the Stonecutters, to be had well-polifh'd Samples of all the above forts of Stone at a very reafonable Price, which fome Gentlemen make collections of for Curiofity fake.


## PARTVI.

Of tbe Remarkable Mountains, and Old Ruin'd Cafles, in Hartz-Foref.

## Chap. I.

Of the Mountain call'd Blocksberg, Blocken or Brockenberg.
$T$ His Mountain is very famous, not only throughout all Gernzany, but alfo in foreign Parts: It is 3300 foot high, and reputed the higheft in Germany, being vifible in clear Weather almoft 100 Englifh Miles round
round about. There goes a Story, which even the Children hereabouts will tell you, That in the Night of the Firit of May, the Witches in Germany affemble, and in company with fome Infernal Spirits celebrate a Feaft and Ball there. 'Tis fituated in the Upper Hartz, not far from the Cafle Ilfinburg, where the Count of Stolberg keeps his Court, about Thirty Englijh Miles from Nordbaufen.

The Denomination of this Mountain is various; fome Authors call it Bruckors(or Bruktors) berg; others, Prockels- (or Brockels) berg, or Brocksberg, and fo forth; but the Inhabitants name it Blocksberg, or, for fhortnefs fake, the Blocken or Brocken, which appellation we juftly take for the trueft.

Some Authors have imagin'd the Etymology of this Name came from the Bructeri, a People that liv'd formerly in that neighbourhood: Others again fay that the Bructeri liv'd about the Rbine, in that Country call'd now Bergen; and, that the Words of Clau-

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dianus, Venit accola Sylva Bructerus Hercynie, is not properly to be taken for the prefent Hartz-Foreft, but for another Foreft coming from Suabia, and croffing almoft all Gerwany, which was anciently call'd Sylva Hercynia. Others think that the Name Blocken or Blocksberg comes from the LowGerinan Word Block, (which fignifies in their Language the fame as in Englifi) becaufe at the foot of this Mountain lie numbers of great Logs of Wood, which might ferve to burn, or be faw'd into Boards, but cannot be carried away, by reafon of the unpaffable Ways of the Foreft, and fo rot there. Which feems to me the moft probable Etymology.

One may go from feveral places up to this Mountain, but Travellers commonly chufe to fet out from Ilfenburg, being the nigheft Town to it. 'Tis in vain to attempt that Journey before $\mathfrak{F u l y}$, becaufe the Snow lies very deep there till that time, and the Air is fo cold, that no Man can endure it.
of Hartz-Foreft.

When you fet out you muft take a Guide with you, who leads you over Mooraffes, Woods, Bufhes, Rocks, Bridges, and Rivu* lets. When you have advanc'd a pretty way, you pafs by a high Rock, call'd the Ilfon-sfone, and continue mounting up two hours more at leaft ; when at laft thofe that are on Horfeback muft alight, leaving their Horfes with a Servant. From hence, after a good deal of Fatigue, in about two hours time, you may arrive at the top of the Mountain. When the Traveller gets there, he is furpriz'd to find fo fmooth a Plain, and aftonifh'd, when he looks about him, at the highth of the Mountain.

Oppofite to, and not far from this, there is another Mountain fomewhat lower, call'd the Little Blocksberg. No Trees grow on the Top of either, but about a Gun-fhot from the Summit of the higheff, and half as low from the lower Mountain, exactly as 'twere in a line, there grow Trees, in fuch order, that it looks as if they had been planted there. The reafon why there are no Trees on the Top of the Mountain, the

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Naturalifts fay, is becaufe 'tis too cold, and the continual moifture that is obferv'd to be there would rot the Roots of 'em.

Here is alfo fituated the Well of which we have fpoken in Part III, Cbap. III, and likewife fome large loofe Stones, upon which fome People carve their Names. The Ground is moorafly, both by reafon of the frequent Clouds that wet it, and the Well mention'd above. The Grafs is very long and bufhy, and feveral forts of Herbs are obferv'd to grow here, which Fobannes Thalius of Nordbaufen, in his Sylva Hercynia, mentions ; as alfo Foban. Royer, Gardener of Heflem, in his Catalogue of Plants.
${ }^{9}$ Tis neceffary here to give the Traveller a Caution, which is, That there are found a fort of Black or Billberry, which caufe a great Headach and Giddinefs, as if one was drunk ; and another fort which is lefs, called by the Country People Monkey-berries; thofe that eat of 'em behaving like Monkeys, and playing all forts of mad Pranks. A Gun difcharg'd on this place gives but lit-
tle Report, neither doth any Eccho follow it. This Mountain ferves the Inhabitants of that Country for a conftant Almanack; for when in the Morning the Top is cover'd with a thick Mift, it certainly rains that Day; and when clear, it proves fair Weather.

The Air upon the Mountain is commonly cold and foggy, even when they enjoy the finef Weather imaginable below: When it is clear, the Traveller has a moft delightful Profpect over the Country, difcovering many Cities, Villages, Rivers, Mountains, and Vales many Miles about him. It happens often that on a fudden it grows fo dark there, by means of fome Cloud that paffes by, that the Company cannot fee each other, altho' they are not far afunder; and then they are fometimes wet quite through to the Skin; at other times the Air is clear here when 'tis dark and rainy below.

People fay, a famous wild Huntfman, a Diabolical Spirit, plays his Pranks here abouts in the Night; wherefore fome would not pafs a Night there for any Money. I $\mathrm{H}_{3}$ have

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have ftay'd here two Nights for Company fake, when we kept a good Fire, and entertain'd our felves with the obfervation of the motion of the Stars, but perceiv'd nothing of the Huntfman: Yet altho' I faw no Apparition then, another time, when I was benighted in the Foreft, not far from Blockskerg, in company with fome Friends, I was convinc'd of the Reality of fuch Be ings.

Concerning the Revels of Witches upon this Mountain, I do not pretend to decide in the Controverfies about it, but refer the Readers to the Authors themfelves, viz. D. FobannesGerbard, Profefor publicus at Yena, his Comment upon the $4^{\text {th }}$ Chapter of St. Matthew ; as alfo Fobannes Pratorius, A. M. in his German Treatife about Blocksberg, Part II, Chap. 2, both of them difo courling thereon at large.

Chap.

## CHAP. II.

## Of the Mountain Rammelsberg near

 Goflar.$T$ He Mountain Rammelsberg lies Southerly of the Imperial City of Gollar. 'Tis a high, large, and on the outfide unfruitful Mountain, it bearing no Firr-trees, like the neighbouring ones, and but only Blackberries and fome few Shrubs. Towards the top 'tis wrent in a furprizing manner, and there is a Cleft which in fome places is from 6 to 8 foot wide, and 100 fathoms long, but of fuch a depth that the bottom is invifible, which, according to the Report of the Miners, grows bigger every Year. When this Chafm was made is not very well known, yet fome think it happen'd at that time when, as the Saxon Chronicle relates, the Mountain funk, and made in one Day 350 Widows, which in a body went towards it bewailing their Husbands (who were buried

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in the Mines) in a molt deplorable mans. ner.

The Name Rammelslerg comes from the Perfon who difcover'd thofe Mines, which happen'd in this manner: When Otho Emperor of Germany kept his Court not far from Goflar, he order'd one day his Huntfman to chafe a Buck, who coming to this Mountain, when he could get no farther with his Horfe, upon account of its fteepnefs, he ty'd him to a Tree and follow'd the Game on foot. In the mean time the Horfe, impatient for the return of his MaIter, raked the Ground with his Feet, by which means he laid bare a metallic Vein ; which the Huntfman perceiving, carried a piece of the Ore to the Emperor, who had it try'd, and thereupon began to dig Mines there. , 'The Huntrman's Name being Ramm, the Emperor order'd the Mountain to be call'd after his Name Rammelsberg. He and his Wife were buried in St. Augufiin's Chapel, the Burying-ground of Frankenberg in Goflar, and a Stone was laid upon them with their Effigies hewn upon it of their

## of Hartz-Foreft.

 805proper Size and Stature; the Huntfman holding a Sword in his right Hand, and his Wife wearing a Crown on her Head; which? Stone was found there fome Years fince five foot under-ground, as they were digging to make a Grave for one of the Burgomafters of Goflar, and was order'd to be fet upright againft the Wall, in view of every-body, to perpetuate the Huntfiman's Memory.

After the Emperor Otho's time, the CityCouncil of Goflar enjoy'd the Mines of Rammelsberg till Anno 1552, when they made 'em over by Contract to the Houfe of Branfwick, and have now only Three left in their poffeffion. The whole Space where the Mines are is about the length of a Gun-fhot: They lie fo clofe together that Baron George Engelbard von Lobneijen, in the Fifth Part of his account of Mines, calls it the richeft Mountain in Germany.

The following Minerals are found there, viz. Glittering Ore, brown-Lead Ore, common Ore, white-Copper Ore, yellow-Copper

Ore,

Ore, Copper-ftone, Flinty Glimmer, whitegrey Flint, greafy Ore, red and grey Inkftone, white and green folid Vitriol, white and green Vitriol, grey-Copper Ore, yellow Mify of the nature of Brimftone, yellow Oker, Talk, and Roch-Alum. From thefe Minerals are feparated feveral Metals ; as, Gold, (but as the Mark of Silver holds but one Farthing's worth of it, it doth not anfiwer the Expences to feparate it) Silver, Copper, Lead, Spelter, Brimftone, Calamine, Cobalt, blue and white Vitriol, $\varepsilon^{\circ} c$. The Ore is fometimes too hard for the Miners Tools, which obliges them to make Fire about it, by which it grows brittle, and is eafily dug up. Whilft this Fire lafts, there is fuch a heat in the Mines, that the Miners work quite naked; fo much the more, becaufe the Water in thefe Mines is of a Vitriolic mature, and fo fharp that it corrodes their Cloaths.

Some People drink this Water for a Pain in the Stomach, and other Ailments, becaufe it purges violently; yet it doth often more harm
harm than can be repair'd. 'Tis of a very naufeous tafte.

Formerly there were, in the deepeft places of thofe Mines, Pits that the Waters fell into ; when they put Iron Bars therein, the Waters fo corroded them that a rufty matter came round 'em, like a Scabbard about a Sword, which being fcraped off, when me!ted, was found to be good Copper. Thefe Pits are now neglected, tho' the Waters retain the fame Vertue. To the Sides of the Gutters where thefe Waters run through, flicks a yellow Mudd, in fome places four or five inches thick, which is call'd Oker, and afford a brown and yellow Colour.

This Mountain is hollow'd out underground into fuch large Caverns, that they in fome places are too high to be propp'd ; wherefore 'tis very dangerous to work in fome of the Mines; upon which account the Miners at Goflar are two Mornings in the Week exhorted by a Sermon to live in the Fear of God, to be prepar'd in cafe of any Accident; but they are fuch a fool-hardy

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audacious Crew, that when the Parfon preaches a little longer than ordinary, and the City-Gates are open, they run out of the Church, leaving him to preach to himfelf.

Moft of the Mines are very well propp'd and fecur'd with Timber, fo that it is commonly faid, There is more Wood under-ground in Rammelsberg, than in the wobole City of Goflar.

Some of the Caverns were by the An: cients very ftrongly fupported with thick Oak-Timber, which is now grown black, and fo hard that it blunts the Edge of the Tools when they endeavour to work it; which, without doubt, were placed there that they might ferve for a Foundation for the Mountain to fupport it felf in cafe it fhould fink.

There are in another part of this Mountain, where the Water-Engine now ftands, great and high Vaults; fome of them are fupported by double Arches, on purpofe to fecure

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fecure the Ground from falling in upon their Sylvian Gods, which they ufed to worfhip in thofe places. This muft have been a very expenfive Work, and fufficiently fhews the extraordinary Veneration they had for them.

In another part hereof is an old Mine, fallen to ruin, call'd The Devil's Mine, by reafon (as 'tis faid) the Devil ufed to work amongft the reft of the Miners, to receive his Pay every Week, and to carry away his Share of the Ore: But one day, as the Miners did not fhare juftly with him, he caus'd the Mine to fall to ruin.

Upon this Mountain is alio fituated the fine Spring call'd The Cbildrens Well, of which we have fpoken in Part III. And for a further Defcription of Rammelsberg I refer the Reader to LobuciJen's eAccount of Mines, and Cbrifian Berward's Explanation of the Miners Language, or Terms ufed by them.

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## C н А P. III.

Of the Mountain calld Kieffhauferberg, and the Caftle Kieffhaufen fitua-
ted upon it.

ABout 18 Englifh Miles from Goflar, not far from Frankenbeufen, over-againft the Lower: Fore-Hartz, in the Plain call'd The Golden Meadore, there is a Mountain, call'd Kieffbaulerberg, which by reafon of its highth is feen from a great diftance, particularly all-along the Golden Meadore, which begins at Nordhaufen, and runs quite to Fryburg, almof 30 Englifh Miles.
Upon the Summit of it is found a ruin'd Caftle, according to fome People, built by Fulius Cafar ; but this Opinion appears to be entirely contrary to Hiftory: For altho' he twice crofs'd the Rbine, he did not venture fo far in the Country for fear of the Germans. 'Tis much more likely that

Claudius

Claudius Drusus, or his Brother Germanicus, caufed it to be built; which occafioning a great Difturbance in the Country, the Caftle for that reafon was call'd Confufio, whence the Country People thro' corruption pronounc'd it Kieffbufen.

This Catte was once in the Emperor Henry the Fifth's poffeffion, and at that time was a Fortrefs of fuch note, that many a brave Soldier loft his Life before it; till in the Year ini8 Ludwig Count of Tburingia, firnamed The Leaper, after a Siege of Three Years, took it, and demolifh'd it: But, fince that, it has been rebuilt $A . D .1483$, People reforting thither upon Pilgrimage, to adore the Holy Crofs. At prefent 'tis entirely ruin'd, and nothing of it remaining but a bare heap of Stones. The Common People relate many Stories about this Caftle, which not carrying with 'em the leaft appearance of Truth, I forbear mentioning.

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## Снар. IV.

Of the Cafte between Kieffhaufen and Keldra, call'd the Rottenburg, and the Idol Puftrich, or Spit-fire, formerly therein.

N this ruin'd Cafte, in thie time of the Pagans, was kept the famous Idol call'd Pustrich, Peuster, Beusterd, or Puster, from the Low-German Word Pust, which fignifies to blowe. This Idol is now in the Arfenal of Sonderfhaufen, and fhewn for a Curiofity. The Metal it is made of is a particular Compofition, which altho' a piece was broken off the left Arm on purpofe to effay it, could not be difcover'd. The Figure is two foot high, and weighs Sixty-two pound. The Face is ugly, and looks like a rude Boy, who out of Malice diftorts his Features : The right Hand lies on the Head, the Fingers

> of Hartz-Forelt.
t. 13

Fingers of the left upon the left Knee; the left Arm, from the Elbow to the Hand, is wanting, by reafon of the Tryal made, as above: On the Crown of the Head there's a Hole, almoft big enough to admit a Man's Finger ; and inftead of a Mouth, there is fuch another: The Belly is two foot fix inches round: The infide of the Image is hollow, and holds about a Pail-full of Water: Both the Feet are loft ; it kneels with the right Leg, and the left is erect. When this Image is fill'd with Water, all the holes being ftopp'd clofe, and put upon the Fire, it fweats to fuch a degree that it falls down in large Drops; and when the Heat encreafes, the Pegs flie out and give a Report as if it thunder'd ; whereupon from the two holes in the Head come forth Flames of Fire thirty foot vertically, and as many horizontally, during fifteen minutes: Which Experiment being try'd one day in the Kitchen, by a Captain, in the Count's abfence, the Cafle was fet on fire, which with much difficulty was extinguifh'd.

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Some are of Opinion that thefe Flames do not come from that Image by Natural Means, but that the Pagan Priefts effected it by their Magic. We cannot deny that thefe Priefts, by the affiftance of evil Spirits, abufed the People, and that perhaps this Image might ferve for that purpofe. Dr. Sagittarius, in his eAntiquitates Gentilifmi Thuringiaci, 1. I, c. 2, fays, this may be accounted for in the Natural way; and he mentions fuch an Image at Rome, in the Reign of Pope Leo X. Henricus Eruftius, lib. II, cap. ult. Obfervationum Variarum, fhews the Method of making it, in thefe words: "Make a hollow and well-fhut "Veffel, part it in the midle with a flat "t piece of Iron with a hole in the midft of " it ; fill the lower part of the Veffel with "Water, the combuftible matters, as Sul" phur, Pitch, Quicklime, Chareoal, Eoc. "being placed in the upper Partition; put " this Veffel on the Fire, then will the " heated Water rarifie, and explode the "Pegs with a thundering Noife, and pafs ${ }_{i s}^{66}$ off in a rapid Steam, which being fpent, "t the
" the fulphureous Compofition will be kin" dled, and rife in a terrible Blaze. It feems very probable that fome fuch Stuff is in the Puster, becaule the Flames that come from it caufe a great ffench, and a thick and black Smoak which falls on the Ground in the manner of Chalk or burnt Brimftone ; But I cannot determine this Point, be, caufe I have never feen the Experiment try'd.

There are now to this Day, in the Coun. ty of Schwarzenberg, fome Lands which are call'd the Flemifh Lands, becaufe they belong'd formerly to fome Pagan Priefts of Rottenburg, who being call'd in Latin Flamines, the Family that poffeffes 'em now, without doubt, have their Name Flemin from them ; as Fonfonius Torquatus? in his Treatije of the Honest Guardian, has prov'd at large. Now, if there were formerly Pagan Priefts in this Country, they muftneceffarily have had fome Idol, and according to all appearance this Pufier was one, Some pretend, that the Romilh Priefts had placed this Image in a Wall in the Caftle

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at Rottenburg ; and, that one of them, who was on the other fide, caufed it to fipit Fire in order to frighten the Common People out of fome Offerings, to appeafe the irritated Deity : Which feems too grofs to believe, that ever any People fhould have fuffer'd themelves to be impos'd upon in fo palpable a manner. See Dr. Sagittarius, in the above-quoted place.

## Chap. V.

of the Ruin'd Cafte near Blankenberg, calld Old Reinftein.

THIS Cafte lies about Three Englifh Miles from Blankenberg, upon a high Mountain, and is very remarkable becaufe the whole Fabrick was hewn in a hard Rock. At the coming in, on the righthand, you fee Stables, fome having Chambers over 'em. From hence you afcend by

Steps.

Steps to a fpacious Area; where ${ }_{2}$ upon your left, you fee a Ditch, which is pretty deep and furrounds part of the Cafle. A little higher are the Ruins of the main Cafte, into which you go thro' a large Gate. On the left there is a long and lofty Vault finely arch'd, which was, 'tis faid, the Chapel; and from hence you may mount upon the Roof of the Caftle, which is (like the reft) hewn out of the fame Rock.

To the right-hand of the Cafle ftands a Tower, being made of Bricks, but partly fallen to ruin: Towards the Road to Quedlinturg is a Baftion of Earth after the ancient manner; and where the Rock is not very fteep, or ftrong enough fortified by Nature, that Defect is fupply'd by a thick Wall. From this place you defcend to another Ditch in the fame Rock: And fomewhat lower there is another Rock with a Cave in it, calld The Baudyboufe or Brodel, becaufe a Gang of Plunderers ufed there to enjoy the Women they had taken Prifoners.

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They fay this Caftle was built by a Count of Reinstein, whofe Family is now extinct, and was ufed by the laft of that Line for many Years, for a Retreat after plundering. The neighbouring People being forely opprefs'd by him, and finding it impracticable to take that Place by Force, they effected it by the following Stratagem. The Count was a great lover of frefh and foft Cheefe, and having order'd fome at the Peafants Houfes, they drefs'd up feveral of their ftouteft Men in Womens Apparel, with Arms hidden under their Cloaths, who waited in the Morning before the Gate, pretending to bring home the faid Cheefe, and when 'twas open'd, maffacre'd the Watch; and many People ruthing in after them, the Caftle was taken and deftroy'd. The Count was preferv'd by his Maids, who few'd him up in a Bed, and let it down into the Road by a Rope, where he ripping it open, fav'd himfelf on foot.

There

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\text { of Hartz-Foreft: } \quad 1 \overline{19}
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There is a. fine Eccho in the Apartments, and a Piftol being fhot off upon the Roof of the Caftle, the Sound of it is repeated feveral times.

Laftly, there is a round Pit filld with little Stones, fcund in the neighbouring Plain, which, the Guides tell you, were brought thither by Evil Spirits ; and, that if fome were taken away, immediately others, nay, often the very fame, come in again to compleat that quantity.


## PART VII.

## Of Jome Gardens and Parks in

 and near Hartz-Foref.
## Снар. I.

Of the Gardens at Heffem.

$\mathrm{A}^{\text {s }}$S they have long Winters in the Upper Hartz, there are no Gardens in that Country which deferve to be mention'd here; wherefore I fhall fpeak of thofe that are on and before the Lower Hartz, where the Air being much warmer, they anfwer better the Pains beftow'd on 'em.

My Defign is not to give here a fuccinct Account of all the Gardens feen there, but only of thofe belonging to Perfons of the firf Rank.

The Pleafure-Garden of Heffem is divided into Twelve Squares, confifting of Eighty Feet each, adorn'd with all forts of Flowers and fome Fountains, which are defcrib'd in Part III, Cbap. V, and are furrounded with green Hedges. In one of thefe Divifions is a pretty lofty and painted Greenhoufe, with Windows on every fide, from whence you have a fine Profpect over the whole Garden. A leaden Pipe comes from the Fountain before it, and carries the Water to a handBaffin in the Greenhoufe, where there is a brafs Cock which wets the Perfon that turns it, unlefs he is fhewn the manner how to do it fafely.

The chief Walks are throughout 15 foot wide ; from North to Eaft there is a pleafant cover'd Walk the whole length of the Garden. The American eAloe has often flourifh'd here; but as the Duke refides

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now at a greater diftance, this Garden is neglected, and Exotic Plants are fcarce here. Befides, the Kitchen-Garden is worth feeing ; as alfo an Orchard, where the Trees are rang'd in exact order. The Defcription of the three Gardens may be feen at large in Royer's eAccount of the Gardens at Heffem.

## C н A P. II.

## Of the Garden at Sonderfhaufen.

TH IS Garden joins to the Caftle where in the Prince of $S_{c b w a r z e n b u r g ~ r e-~}^{\text {res }}$ fides: It has been improv'd mightily of late Years by the prefent Prince Cbristian-William, who with great Coft and Labour has now made it one of the fineft in Germany. It is divided into four Quarters, which again are fubdivided, and planted with French Trees of the choiceft Fruit, and furrounded with green Hedges kept in great Order. Each

Each Quarter has fomething particular: In that on the right hand of the Caftle there is a fine Greenhoufe, furnifh'd with a grear number of Orange-trees, and all forts of Exotic Plants: In the Quarter on the left is a Labyrinth, in whofe Walks are placed feveral hundred painted Flower-pots with Carnatians, which yield an agreeable Profpect when they are in Bloffom. The two other Quarters are laid out in all forts of Flower-work border'd with fmall Box. In the midle, between thefe four Quarters, ftands the Fountain, mention'd Part III, Cbap. V, round which are to be placed feveral large Statues. At the Entery of the Garden from the Palace, there is a Portico with a Walk upon it, from whence a Walk cover'd with all forts of Trees runs to the right, and furrounds half the Garden. The South and Weft fides are left free for the fake of the Profpect; and only in the corner there is another handfome Portico with an Arbour. The main Walks of this Garden are very fpacious. From the cover'd Walk on the right-hand, you mount by Stone-fteps upon

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a pretty high Terras, where is a fine Mall 166 paces broad, and 650 long : One fide is fenced with a Wall, and the other towards the Garden with Lattis-work; both fides planted with all forts of Wall-fruit. At one end there is a Door going into the Palace; and Arbours at both. Going down from this Garden to the left, there is a large Greenhoufe building, that fituated within the Garden being too little; and near it they have begun an Avenue, which is already feveral hundred' paces long, and is to be carried a great way into the Fields: It is planted with Lime-trees on both fides, and broad enough for two Coaches to go abreaft, and will be a great addition to the Profpect of the Palace-Gardens: Here alfo $I$ have feen feveral times the Aloes in bloffom.

## Of the Gardens at the Cafle of Hertz: berg.

The Caftle of Hertzberg, fituated overagainft the Upper Hartz, is now uninhabited, and the Gardens, which are upon a hiHy
of Hartz-Foref.
hilly Ground, neglected upon that account, fo that I have nothing in particular to recommend'em for; yet I am perfuaded there is fomething left that will entertain any one that takes the trouble to view ? em .

## Of the Park near Blankenburg.

In this Park, which is feveral Miles long, and runs into the 'Fartz, there are, among other wild Beaft, Stags of various colours and fizes, particularly a very large one, with black Spots; and fome white as Snow, with large Horns.

## Of the Pheafants Garden near Sonders. haufen.

Not far from the Garden at Sonderfanufen is another large one, furrounded with high Walls, call'd Thbe Pheafarts Garden, becaufe Pheafants of all forts of colours are kept there, both for fhow and ufe. Here is a large and finely-contriv'd Labyrinth, and the Walls that furround the Garden are planted with Wall-fruit.
Chapo

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## CHap. III.

## Of the Woif-garden.

THE Wolfs are very ravenous, and do great Damage in thefe Countries; wherefore they are hunted in various manner. The Wolf-garden, being made in the thickeft part of the Foreft, where they love to herd, proves a very fatal Contrivance to them. There is one of thefe Gardens near the Bailiwick of Stiege, which is fquare, about two Englifh Miles long each way, and furrounded with high Pales. The Entery is in the Eaft corner, with a fmall Houfe near it.

From hence there goes a broad Way thro' the Wood to an open place in the left Corner, where the Carcafes of dead Horres, Cows, $\varepsilon \circ^{\circ}$. are carried to decoy the Wolfs Southward, not far from the Eaft Corner, the Planks are pretty low; on the outfide of them there is a deep Pit, cover'd with Bruhy

Brufhwood. In the infide of this Inclofure, near the Pales, there is a Foot-path, and without there is a large Waggon-road, in which, oppofite the place where the Carrion is, ffands a high Tree, upon which is a Watch-houfe; and another fomething big. ger towards the North Corner, wherein hangs a Bell, which he that is in the firft can toll, by means of Pulleys that carry the String all-along the Trees. When the Huntfmen perceive that the Wolfs have been at the Carrion, one of 'em gets up in a Tree in a Moonfhiny Night, and another into the Houfe where the Bell hangs; when the Wolfs are gather'd about the Carrion, the Huntfman in the Tree pulls the Bell fo many ftrokes as he fees Wolfs; upon which Signal the other Huntfman runs immediate. ly to the entery of the Inclofure, and fhuts it up with a Net and Cloth kept for that purpofe; and one of 'em enters the Inclofure at the fame time with fome Hounds, climbing up into a Tree over-againft the Pit to obferve how many Wolfs are catch'd, and to call the Hounds off if they fhould go to follow
follow them. Mean while the Hounds chafe the Wolfs, who fail not to fcour round the Inclofure to fee where they can get out; and coming to the fide where 'tis loweft, they leap over and fall into the Pit on the other fide. The Morning following a clofe Cart is drove to the Pit, and one of the Huntfmen gets down into it by a Ladder, and flings a Noofe round the Wolfs Necks, gaggs their Mouths, binds their Fore-feet, and then flings 'em into the Cart; and in this manner he takes 'em one after another. This Invention to catch Wolfs alive is the beft Ihave ever read of: Here were catch'd in the Year 1710 Twenty-four Wolfs.

There is another Wolf-Garden not far from Hertzberg, which is not fo good as this, becaufe the Pit is in the infide of the Fence.

PART

## PARTVIII.

Of the Mines and SmeltingHoufes on Hartz-Foref.

## CHAP. I.

Of the Gapels; and the Mine-Pits under them.

F you have a mind to fee the Mines and Smelting-houfes on the Hartz, particularly at Claufihal, zellerfeld, and other places, you muft go to a Houfe near one of the Mines, to provide your felf with a Guide and a Miner's Drefs. Firft you are carried to a Gabel, or Gapel, to fee how the Ore is brought up from the Mines.

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The Gapel is a Building of Wood, cover'd with Boards or Slate, round at the bottom, and running up into a Point like a Sugarloaf: The Bafis is about fixty foot diameter, that there may be room enough for a Horfe to go round in. In the midle of the Area is a deep Hole, wherein is placed a Spindle, on whofe upper end is wound about the Chain which brings up the Bucket with Ore from the Mine. Laftly, there goes acrofs thro' the Spindle a Beam, to which the Horfes are put.

When the fuil Bucket is brought up to be emptied, the Man who governs the Horfes drives 'em about, to let down the empty Bucket again, and another full one comes up at the fame time.

Befides thefe Gapels, there are fome made in the nature of Windmills, but as they did not anfwer, upon account of the uncertainty of the Wind, they are all out of ufe at prefent.

From the Gapel you go to a place call'd The Forehoufe, where you fee the Shaft, whịch

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\text { of Hartz-Foreft. } \quad 1.31
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which is about 5 or 6 foot fquare, which leads you down to the Mine, and is very well fecur'd with Timber to prevent the Ground's falling in. Here you go down upon Ladders of about thirty Steps : At the Foot of each there are fome Boards placed to reft upon ; the Guide going firft with a Candle in his Hand. If you do not care to undergo this Fatigue, you may be let down in, one of the Buckets. When you come to the bottom, the Guide fhews you the Caves, or places where the Miners dig the Ore, which are often as high and fpacious as the infide of a midle-fiz'd Church. Some of the Ore, where the Vein runs brittle, is dug with a Hammer and Chiffel; but in other places 'tis fo tough that they are oblig'd to blow it up with Gunpouder; which is done thus: They have a long and fquare Iron Peg, running into a fharp and harden'd Point; with this Iron they make a Hole in the Ore, fill it with Gunpouder, fecure the Hole, and put a Thread that is dipp'd in Brimftone to it, which they light on the Extremity, and then run away from it.

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${ }^{3}$ Tis a very pleafant Sight to fee the Miners, of which there are fometimes Thirty together working in one place, each of 'em having a Light before him, and the Ore glittering all about 'em.

Then you go to the place where the Ore is put into the Bucket to be drawn up, and afterwards obferve the Pillars of Ore or Stone that are left here and there to fupport the Mountain. Some of the Vaults are propp'd with ftrong Oak-Timber ; and 'tis furprizing to fee what quantities of fine Trees are buried in fome of the Mines.

If any Mine has fo much Water that it cannot be work'd, there is either a Trench dug, by which the Water comes out at the foot of the Hill; or 'ris pump'd up by fuch an Engine as is defcrib'd before in Part III, Chap. VI.

## CHap. II.

Of the Adits.

AN Adit is a Trench begun at the foot of the Mountain, running into one or more Mines: 'Tis pretty large, both Sides and the Roof are fecur'd with Timber, and ferve to drain off the Water, to admit frefh Air into the Mine, and to let out the noxious metallic Vapours, which are often fo poyfonous that fome of the Miners are on a fudden fuffocated, and the Candles extinguifh'd, by them. By this Trench one may go into the Mine, but as the Mouth of it is commonly a great way off, 'tis feldom attempted by any one for Curiofity's. fake.

## Of the Ditches belonging to the MineWorks.

As there is a great deal of Water requir'd for the working of Metals, and to drive the Water-Engines, Stamping-Mills, and others; to fupply the defect of Rivers where Nature has provided none, the Miners have in Ceveral places in the Valleys made Ditches, into which the Water is convey'd from the neighbouring Springs, and kept for Ufe.

Thefe Ditches are commonly very long, and the Dams neatly made up with Turf very ftrong, and rais'd feveral feet above the furface of the Water, to refift the Torrent of Snow and Rain-Water, that comes down from the Mountains with great impetuofity.

Сhap。

## CHAP. III.

> Of the Stamping-Mills, and wafhing of the Ore.

$T$HE Ore is feldom found pure, but moft commonly fome hard or foney Matter mix'd with it ; for which reafon (before it is roafted or melted, to fave the expence of Wood and Coals) 'tis ftamp'd and wafh'd upon the plain Hearth, which is made with feveral Boards placed in the pofition of an inclining Plane, to feparate the Stone from the Metal.

The Stamping-Mill-Houfe is a long and broad, but low Building, divided in the midle by a Wall ; one Side of the Houfe ferving for the ftamping, and the other for the wafhing of the Ore.

The Ore is flung into a Trough whofe Sides and Bottom are fecured with ftrong Iron Plates, where it is beaten into Pouder,

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either with or without Water, as the nature of the Ore requires. The StampHammers, or Peftles, are lifted up by a Wheel, and, to encreafe their Force, there is to the bottom of each of 'em fixed a flat piece of Iron of $50 \%$ weight.

When the 'Ore is pounded in the dry way, 'tis only paffed thro' a Sieve made with Wire, or elfe thro' a Brafs Cullender : But when they let Water into the Trough, the pounded Ore runs with the Water out of it, into a Brafs Veffel with a Wire Bottom that is placed before it ; and from thence it falls into another Trough, where ?tis wafh'd fo long, till all the floney Particles are feparated from it.

What remains in the firft Trough is clean'd in the following manner: In the other partition of this Building there are feveral inclining Plains, or plain Hearths, which are cover'd with coarfe Linnen; the Ore in pouder, juft now mention'd, is put upon the upper end, and the Water running upon it, 'cis wafl'd down from one Plain

Plain to the other, till at laft all the metallic Particles fubfide to the Linnen, and the Stone is carried by the Water into the Troughs at the foot of there inclining Plains; but as this carries ftill fome Metal with it, they let it run from thence into large Refervoirs, where they allow it time to fettle : And when they have no Ore to ftamp, they put it again under the StampHammers, to wafh it as before, to feparate the Metal entirely from the Stone.

The Ore fubfiding upon the uppermoft Board of the Plain Hearth is pure Metal, but that of the fecond, third, $\mathcal{E}^{\circ} c$, is wafh'd over again.

This Labour is perform'd by little Boys and Girls.

Chap。

## ${ }^{1} 38$ The Natural Hiftory

## Cнар. IV.

Of the Roafting-Ovens, and the roafting without the Hutts.

THE Roafting-Ovens, as alfo all the other following ones, ftand under one large Building made for that purpofe. The Oven is made exactly like a Baker's Oven, only bigger: Herein they make a Fire with fplit Wood, and fling the laft walhings of the ftamp'd Ore in it ; then burn it twelve hours, to clear it of the unripe, volatile, and poyfonous metallic Particles; for otherwife both the good and bad would fly away in Smoak in fmelting.

The Ore is feveral times turn'd, at firft with an Iron Rake, but, when it begins to fweat, with an Iron Fork with two crooked Teeth,

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\text { of Hartz-Foreft. } \quad 139
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In fome places they burn the Ore in pieces in the open Air, particularly near Goflar, where they fling the Ore that comes from the Mines of Rammelsberg nine foot high, upon a Pile of Wood, which they fet on fire, and then the Ore continues burning a great while, without any further fupply of Wood, becaufe of the Brimftone that is mix'd with the Ore.

The Sulphur melting from the Ore, runs into round Holes, from whence it is taken away with Iron Ladles, and clarified into yellow Brimftone. Some of it drops from the Sides of this mafs of Ore, in the form of Icicles, which is very pure, and fo fine that it may be ufed inftead of Flower of Brimftone.
Of the Smelting-Oven.

Thefe fort of Ovens being made many different ways, it would be too tedious to defcribe 'em all here, with the various Ways of melting the Metal in 'em ; therefore I will only acquaint the Reader,
that the Ore, roafted as above in thefe Ovens, is melted either with or without fluxing Pouder, according to the hardnefs of the Metal. When the Metal is in $E l u f s$, they open the Furnace, and it runs out into round Holes in the Ground like unto Kettles: The Slakes are feparated whilf the Me tal's hot, with a fort of an Iron Rake. Afterwards the Furnace is cool'd by the blowing of large Bellows that are work'd by Water, that it may be the fooner fit again for ufe.

## Of the Refining-Oven.

In this Oven they refine or purifie the above-mention'd Metal in the following manner. When the Oven, and Coppel that ftands in it, are duly heated, the Refiner: puts the Metal upon the Coppel, and encreafes the Heat till it flows; then he fcums of the Flakes, and the remaining Impurities are carried away by the blowing of the Bellows, which are directed upon the Metal when it ftands in Fiufso - This Operation
of Hartz-Foreft.
peration is practis'd only upon Silver and Gold.
Of the Burning-Oven.

When the Silver is prepar'd, as in the preceding Chapter, 'tis put upon the Teft, and if it is found not fine enough, 'tis further purified in the following manner.

The Oven is made with Bricks, and has feveral Air-holes; the Silver is put, into it upon a Teft, and left there in $F \operatorname{luf} f$, either under a Muffle, or before the Bellows, fo long till it fparkles, and then 'tis cool'd in a Pail of Water, and call'd Burnt or Refined Silver.

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\text { Снар. V. } \\
\text { Of the Coin-Work. }
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TH E Refined Silver is put into Crucibles, and when 'tis not to be minted pure, they allay it, when it fands in Firfs, with Copper: Afterwards 'tis caft into long Ingots, and cut into pieces according to the bignefs of the Coin intended, which are made of a weight all exactly alike; then they are boil'd white, and put betwixt two Iron Dyes that are engrav'd for that purpofe, and a Man ftrikes upon it with an Iron Hammer. But where the Money is coin'd by an Engine, the Silver or Mix'd Ingots are forced thro' two Rollers of Steel fix'd above one-another, at a diftance anfwerable to the thicknefs the Money is defign'd to be, by means of a Wheel which one or more Hor-

Horfes drive about. When thus the Ingot has been flatten'd, it is paffed again thro' another Machine like the firft, to be fmoothen'd and made even all over, that when it is cut to be coin'd, one piece may not be heavier than another. Thefe pieces are boil'd white, and then ftamp'd in an Engine made for that purpofe. In this manner are coin'd the Rixdollars, and all other great Pieces ; but the fmall Money is made with lefs trouble, for the Ingots or Bars are coin'd at the fame time when they are paffed thro' the Rollers before mention'd, on which the Stamp of the Coin flands engrav'd.
Of the Refre/h-Oven.

This Oven is in many Particulars like the common Smelting-Oven; and in it they melt the Litharge, which was feparated from the Silver in the manner of Drofs, into pure Led, which they let run out upon the Hearth; and from thence it is with an Iron Ladle fill'd into Iron Pans of a

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certain dimenfion, and ftamp'd afterwarđ̌s with an Iron Mark.

$$
\begin{aligned}
& \text { Of the Seiger, Darr, and Defting } \\
& \text { Ovens. }
\end{aligned}
$$

The Seiger or Streining-Oven is that where the black Copper is feparated from the Silver and Lead it contains; what runs thro' by feigering, or this way of ftreining the Metal, is call'd Work, and is manag'd upon the Teft like Led; but the Copper which fays upon the Seiger-Oven is brought to the Darr, or Drying-Oven, and kept there twelve or fourteen Hours, to drive the remaining Silver and Lead from it. What remains of this Copper is put into the Deft-ing-Oven, to make it Deft, or pure folid Copper.

C会A

## Снар. VI. Of the Copper-Mill.

THE Copper-Mill is a place where the Copper, prepar'd as above, is melted once more, to cleanfe it from all Drofs, in order to make Kettles of it.

The Copper-Plate which is to be beaten flat is firft put under a large Hammer, which is lifted up by a Water-Mill: Further, 'tis made round and concave by a Hammer that is long and pointed, and at laft is beaten into the form of a Kettle, with a wooden Hammer.

## Of the $\mathrm{Brafs}-$ Houfes.

Brafs is made as follows. They have under-ground round Ovens, call'd SmeltingOvens, into which Air is admitted by feveral Wind-holes contriv'd for that purpofe. L. They

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They put feveral Crucibles at once in thefe Ovens, and when they are red-hot they take 'em out again, to put in the mixture of Granatulated Copper and Calamine, in Pouder ; which they let ftand nine hours in a great heat, to flux it thorowly. When they want to make Kettles of it, they pour it between two large Stones placed very little afunder, to bring it into thin Leafs ; which Leafs are made into Kettles, as mention'd above.

It is remarkable, that the Copper from Rammelsberg Mines can't be made into Brafs, but what comes from Sweden and Hefjemz eafily admits the mixture of Calamine.

> C н а P. VII.
> of the Vitriol-houfes.

T HERE are two Houfes in Goflar where Copperas Lye is boild, one of them belonging to the Duke of Lunenburg - Wolfentuttel, and the other to the City

City-Council of Goflar. The Green Vitriol is prepar'd from the Minerals found in Rammelsherg, after the following manner. Firft, the Pieces are very well mix'd together with an Iron Rake, and the large ones beat fmall with an Hammer: Then they fling 'em into a Leden Veffel, pour fome warm Water upon it, and let it Itand twenty-four hours ; afterwards this Lye is poured into a large Butt, where 'tis left four days to fettle. When they perceive that all the Vitriol is not extracted from the Mineral, they wafh it once more, and let the Lye run thro' fome Hurdles or Baskets into a Tub, from whence 'tis the next day poured into a large Veffel, where it ftands four days to clarifie, which afterwards is joyn'd with the firft Lye, and poured into Leden Pans, where they boil 24 or 30 , to 36 hours: Then they try the Liquor, and when 'ris found to bear the Proof, 'tis poured into large Leden Pans to cool, becaufe, whilft hot, it would run thro' Wood immediately. When the Liquor is cool, they empty it into the Settling-Tubs, upon whofe Bot.

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toms are placed pieces of Reed for the Cryftals to foot upon, which happens commonly in about fourteen days: Then they pour off the Water; and pack up the clean Vitriol that is foot, but the Pieces that are foul are diffolv'd again for another Operation. Likewife the Dregs remaining in the Settling-Tubs are waff'd over again, to extract all the Vitriolic Salts.

Thofe that work at this Manufactury wear wooden Shoes, becaufe the Vitriolic Lye corrodes the Leather.

## Снар. VIII.

of the Iron Smelting-houles and Hammer-mills.

THERE are many places of this kind in the Harts, viz. at Jorge, Wiede, Tonne, Gittel, Stolberg, Rubeloud, Voigtsfell,
of Hartz-Foreft.
feld, $\& \mathrm{c}$. where good Iron is prepar'd ; but that of Gittel excels all the reft, which plainly appears by the Engines pumping up the Water from the Mines, as defcrib'd above, in Part III, Cbap. VI; for when it freezes hard, if there is any other Iron about the Wooden Bars that move to and fro, it breaks like Glafs; but that of Gittel twifts and bends like Led : Wherefore the Overfeers of that place are order'd to keep always a fufficient Stock of their Iron by 'em, to fupply the Water-Engines, and dare not fell any, but when they have plenty of $i t$.

The Method of preparing the Iron is as followeth;

Firft the Iron-Stone is roafted before the Smelting-houfe, and then ftamp'd; next it is melted in an Oven with Coals, by the help of Bellows drove by a Water-mill; from whence it runs into Moulds that are placed near the Oven, or elfe it runs into round Holes made in the Ground. Then 'tis carried to the fammer-mill, where they

$$
\text { L } 3 \text { an }
$$

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anneal it firft, and by means of the Hammer bring it into Bars of all fizes. Some of thefe Bars are carried to the ZentHammer, or Small-Hammer-mill, where they are heated again in a Coal-Fire, before the Bellows that is drove by Water, and beaten into long and thin Staffs, of which the Smiths in the Hartz and the adjacent Country make their Nails.

PART IX.
Of fome other Remarkable Things in and near Hartz-Foreft.

## CHAP. I.

 Of the Glafs-houfe.THERE were formerly three Glafshoufes in the Hartz, but by reafon of the coniumption of Wood, which is grown more fcarce of late, there is but one left. It lies about Eighteen Englijn Miles from Nordhaufen, facing the Upper Hartz. 'Tis built of Wood, pretty lofty, $\mathrm{L}_{4}$ for

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for fear of the Fire, and may be taken to pieces and convey'd to another place when Wood thereabouts is wanting; which has been practis'd not long fince.

Here they have feveral forts if Ovens, and one of them is, all about in the infide, lined with ftrong Sand-ftone, which neverthelefs, becaufe of the vehemence of the Heat, feldom lafts above three Months.

The Materiais Glafs is made from, are cither pieces of broken Glafs, or elfe a mixture of Sand, Afhes, and Salt. When the Matter flands clear in Flufs like Metal, then the Mafter takes a hot Iron, (to a cold one the Matter would not ftick) and dips it in, to fee whether 'tis fit to be wrought ; if he finds it is, he takes fo much upon the end of his Iron Tube as he thinks will be fuffcient for the Glafs he intends to make; and if he finds he has not enough, he cools what he hath already a little, and then dips it in again; and thus he gathers on his Tube what quantity he pleafes. Then he blows it up like a Bladder, and turning the Tube about,

$$
\text { of Hartz-Foreft. } \quad 153
$$

about, fhapes it into the Form he propofes, with an Iron: The Glafs is taken off and put into an Oven moderately hot, to cool and to harden, becaufe in the cold Air it would crack in pieces.

They make no Glafs here in Winter, upon account of the great Cold; when the Weather grows warm they heat the Oven, and keep it fo Night and Day as long as the Oven will laft.

A great number of Men are requir'd for a Glafs-houfe, for no one can endure that Heat longer than fix hours, at the end of which the Workmen muft be reliev'd. The Man that blows the white Glafs is not fuf? fer'd to drink brown Beer, becaufe, they fay, it gives the Glafs a Caft.

The Hart* Glafs is naturally of a dark and greenifh Colour, which Imperfeation it makes up by hardnefs and duration in the Fire; for which Qualities it is much efteem'd by Chymintss

> Laftly,

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Laftly, I cannot forbear mentioning a fort of Glafs-Bubbles which were prefented to the Royal Society in England, as a great Curiofity, who made feveral Experiments upon them, as Dr. Merret, Member of that Society, relates at the end of his eAnnotations upon Nehri's art of Glafs-making. They cannot be made from all forts of Glafs, but it mult be a clear green-colour'd Glafs, which is dropt in cold Water, where it is left till it is perfectly cold.

Thefe Bubbles are fhaped fomewhat like a Retort, appear polifh'd and folid without, but in the infide the Pores are more numerous and patent. When you have a mind to joke with 'em, you put the globular part into another's Hand, pretending to make him a Prefent of it, and then break the Neck, when immediately it burfts with a great Noife into innumerable fimall pieces, giving the Hand a fhock, yet without any Hurt.

Many different Reafons have been given for this Phenomenon, but moft Authors agree

> of Hartz-Foreft.
that the Neck of this Glafs-Bubble being broke off, the inclofed Air wants to get out, and the external one rufhing in upon it at the fame time, the Glafs is by that Conflict tore in thoufands of pieces.

He that wants farther Information about it, may read Sturmij Collegium Experimentale, Part II, Tentam. 6. and Rofini Lentilij Schediafma Curiofums de Vitris Analectios, anannex'd to the Ephemerides Gernanorum, Dec. 2, Anno 3.

## С $\mathrm{HA} \cdot \mathrm{P}$. II.

Of the Place call d the Enchanted Hall, and other Remarkable Things at Walkenried.

IN the Convent of Walkenried, over the Cloyfters, there is a very large Room, call'd The Enchanted Hall, becaufe the following Accident happen'd there, in the time

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time when a famous Schoot was kept there.

One Day fome Boys made a Mark on the Floor in this large Room, to try who could leap fartheft, and it happen'd that one Dainius, born at Ellrich, jump'd, and came to ftand upon a certain place, from whence he could not ftir; neither could the other Boys pull him away. The Ufher of the School perceiving this, conjectur'd it muft proceed from fome Enchantment, and order'd the Boy to look about him, to fee if he could difcover any Figures or Writing; which he did, and faw a Circle over him, and on the Stone Wall eaftward fome Writing in Greek, and towards the fouth a few Characters, which he partly read or defcrib'd, and then the Ufher underftood there was a Treafure hid, and that the Perfon who at a certain time (which hap. pen'd to be when the Boy came there) fhould tread upon that Point was to fee the Writing, and difcover the Treafure: Whereupon the Boy was freed from his confinement, and fome People were order'd
to fearch, who found in the Wall a Stone Veffel fill'd with Silver Coin, which was prefented to Cbristian Ludzeig Duke of zellie.

The place where this Treafure was found is fhewn to this day, and is a fquare Hole in the Wall, fo artfully fhut up with a loofe Free-ftone, that it is difficult to be. difcern'd.

Dr. Weiz, now Phyfician to the Duke of Saxe-Gotha, and fome others with him, went Anno 1687, in the Day-time, to try the Divinatory Rod in this Room, out of Curiofity; when, near the Hole where the Treafure had been found, they perceiv'd a great attraction in the Rod, but could not proceed, being feiz'd with Fear; for op a fudden it grew duskifh about them, and then they all turn'd pale and ran away. Afterwards they related, that each of them felt as if a Wind had paffed thro' them, and they had been, by their Hair, lifted up to the Cieling. This Story is by Samuel Reyherus, in his Differtatio de Nummis quibuf-

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dam ex Cbymico Metallo factis, quoted from the faid Weiz's Epiflle。

In the Cloyfter next to the Church, under five Arches, are to be feen the Figures of feveral forts of Animals, as, Doves, Peacocks, $\xi^{\circ} c$. with divers Flowers, which are yet pretty compleat, and the Colours very frefh. Dr. Weiz, in the above-quoted place, takes thefe Paintings to be of a myfterious fignification; becaufe, as 'tis recorded, that Bafil Valentine liv'd fome time in this Convent, he thinks they were made by his Direction, and fignifie fome Proceffes of Alchymy, or fomething of Magic.

$$
\begin{gathered}
\text { Of the Remarkable Tower in the Cafte } \\
\text { of Scharzfeld. }
\end{gathered}
$$

In the Caftle Scharzfeld, mention'd in the Firft Part, Chap. II, upon a Rock which is Eighty foot higher than the Mountain whereon the Caftle ftands, there is a Tower of Free-ftone, which, becaufe of its extraordinary highth, is feen at a great diffance.

> of Hartz-Foreft.
${ }^{3}$ Tis remark'd of this Tower, that no Covering can be fix'd upon it; for, what they lay on in the Day-time (which has often been try'd) is flung down in the Night.

## CHAP. III.

Of a Fofsle calld Drake-Atone, found near Ganderfheim and Brunfhufen.

NOT far from Goflar, in the Fields belonging to Ganderfheimz and Brunfhufen, there is found a Foffile fhaped like a Ram's Horn, call'd Drake-stone by the Inhabitants, becaufe (they fay) 'tis a Charm againft, and cures, Witchcraft and the Enchantments of the Drake; as they exprefs it ; for when the Cows lofe their Milk, or void Blood inffead of it, they put there Stones into the Milk-pail, and by that means expect a due quantity of Milk from thofe Cows again.

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Fobannes Reikkius has wrote a Treatife upon this Stone, in the eAppendix to the Ephemerides Gernanorum, Decur. 2, A. 71 which is worth perufing.

## Chap. IV.

Of the Curiofities of the Caftle of Blane kenburg.
$\mathbf{A}^{\text {LTHO' }}$ no Prince refides here at prefent, yet there are feveral Things in this Caftle worth the Obfervation of a Cu rious Perfon.

You fee there feveral Staggs Heads with Horns of a furprizing bignefs ; and among other Curiofities, there is a Winding Staircafe, fo ingenioully contriv'd that there is a Hole left in the midle from top to bottom.

## of Hartz-Foreft. <br> 161

Of the large Banqueting-Rooms in the New Cafte, and Pbeafants Houfe at Sonderfhaufen.

Among the Apartments in the New Caftle at Sonderbaufen, which are beautiful and richily furnifh'd, there is a large BanquetingRoom, where the Prince often dines in public: 'Tis adorn'd with feveral fine Figures of Plafter of Paris, coftly Looking-glaffes, and other fumptuous Furniture. There is alfo in the Pheafants Houfe mention'd in Part VII, Cbap. II, befides the other fine Apartments, another magnificent Banquet-ing-Room, as above, where the Prince with his Family often divert themfelves in Summer.

## Chap. V.

## Of the Effigie call'd The Roland, at

 Nordhaufen.IN a Corner of the Town-houfe at Nordbaufen, going to the Market, under a Copper Cover, ftands the Effigie call'd Roland, which is a Man's Statue as big as Life, made of Wood, having a gilt Crown on his Head, and holding in his right Hand a Sword, and in his left the Eagle of the Empire, to denote the Liberty of an Imperial City. 'Tis faid that Cbarlemagne erected this Image here, at Halbertadt, and other places, in memory of the Valiant Count-Palatine Roland, upon his being murder'd in Gafcony when he victorious return'd with his Army from the Saracen's War. But Martinus Zeilerus, in his 3515 s Epijle, Part II, thinks that Statue reprefents

$$
\text { of Hartz-Foref. } \quad 163
$$

fents the Emperor Charlemagne himfelf, and had been fet up to fignifie, that an Imperial Court of Judicature is kept there, and, that the Name Roland, or Ruland, comes from Rugeland, a Land of Judicature ; the ancient German Word Rugen being to keep a Court of Juftice. Which Opinion feems very probable; and that, that Statue could not reprefent the above Count-Palatine, appears plainly from the Crown on its Head, that Ornament being too great for his Quality.

The Common People fancy the Freedom of this Imperial City would be loft if this Statue were broke in pieces, or otherwife demolifh'd: But our Privileges fand upon a more folid Foundation ; for we hold 'em from the Imperial Inftitution of Cbarlemagne, which has been renew'd and confirm'd fince by Leopold the Firlt, Emperor of Germany, the i2th of May, 1695.

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## Chap. VI.

## Of the Curiofities in the Cafle of

## Gruningen.

IN the Lower Fore-Hartz, in the Principality of Halberftadt, is the Caftle of Gruningen, where, among other Rarities, the following are remarkable. Firft, a very beautiful Chapel, with an Organ of 59 different Stops; which Pratorius, in his Organographia, has taken Pains to defcribe at large. The magnificent Dining-Room, and the great Wine-Cask in a fpacious Vault, which (they fay) meafures Two thoufand Pails full, and is as big as that in the Fortrefs Konigstein, in the Elector of Saxony's Territories.

Thefe are the chief Curiofities obfervable in and near Hartz-Foreft; which if they merit the Reader's Approbation, 'tis all I require.

$$
E N D E
$$

THE

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## 

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